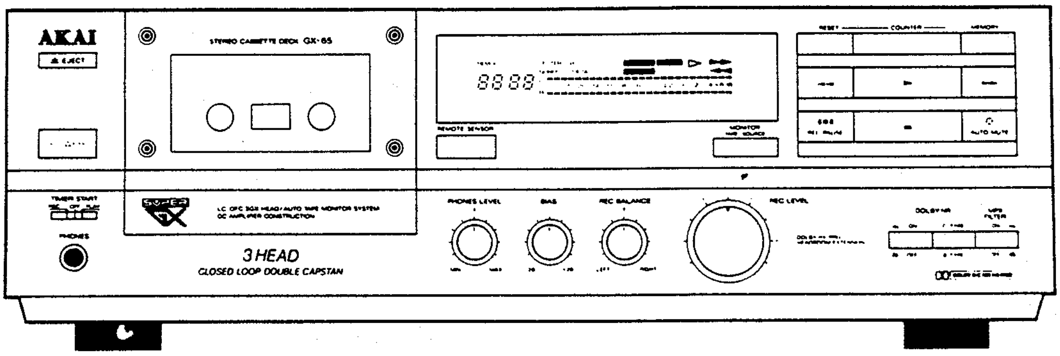
899

GX-65MKII

AKAI SERVICE MANUAL



STEREO CASSETTE DECK

MODEL GX-65MKII

SPECIFICATIONS

Track system	4 track 2 channel stereo
Heads	
Erase head	×1
Recording head	LC-OFC SGX ×1
Playback head	LC-OFC SGX ×1
Motors	
Capstan drive	Electronically controlled DC motor ×1
Reel drive	DC motor ×1
Wow and flutter	0.06% (DIN), 0.035 (WRMS)
Tape winding time	80 sec. (C-60 Tape)
Frequency response	
Normal tape	15Hz to 19,000Hz ±3dB
CrO_2 tape	15Hz to 19,000Hz ±3dB
Metal tape	15Hz to 21,000Hz ±3dB
S/N	57dB (Metal tape) Dolby B type NR switch ON: Improves up to 5dB at 1kHz, 10dB above 5kHz Dolby C type NR switch ON: Improves up to 15dB at 500Hz, 20dB at 1kHz to 10kHz
Total harmonic distortion	0.7%
Input (Level/Impedance)	
Line	70mV/47kohms
Output (Level/Impedance)	
Line	388mV/2kohms
Headphone	1.3mW/8ohms
Power requirement	AC 220V, 50Hz for Europe except UK AC 240V, 50Hz for UK and Australia AC 110V-120V/220V-240V, 50Hz/60Hz convertible for other countries
Dimensions	425(W) × 137(H) × 353(D) mm (16.7 × 5.4 × 13.9 inches)
Weight	5.5kg (12.1 lbs)

Standard accesories

Connection cord	×2
Remote control unit	×1
Dry batteries (R6 (AA))	×2
Operator's manual	×1

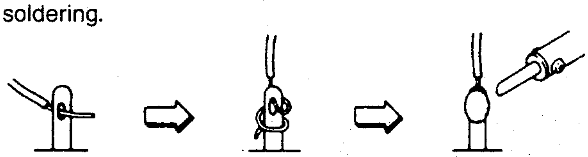
*** For improvement purposes, specifications and design are subject to change without notice.**
*** Noise reduction manufactured under license from dolby laboratories licensing corporation. "DOLBY" and ◻◻ symbol are trade marks of dolby licensing corporation.**

899

★ SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 μF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.
Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

★ INFORMATION

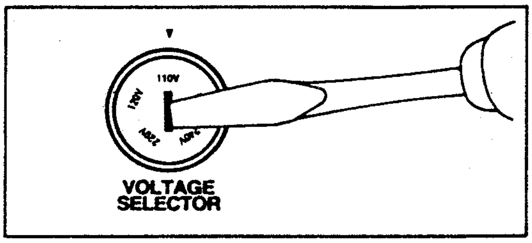
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	W. Germany only
U	Universal Area
Y*	Custom version

VOLTAGE CONVERSION (U Model only)

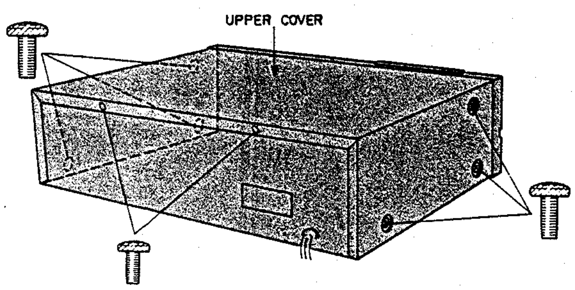
Before connecting the power cord, set the VOLTAGE SELECTOR located on the rear panel with a flat type screwdriver so that the correct voltage for your area is indicated.



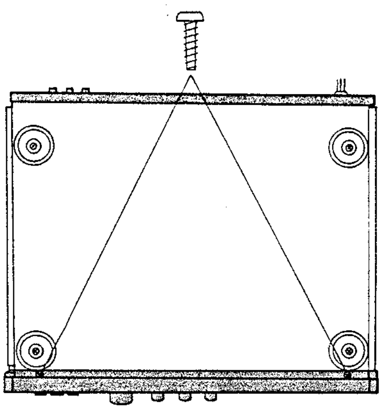
I. DISASSEMBLY

Incase of trouble, etc., necesiting dismantling, please dismantle in the order shown in the illustrations. Reassemble in reverse order.

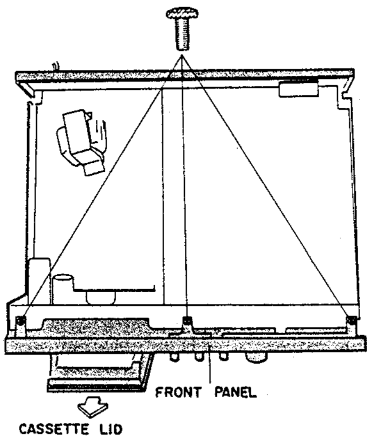
1. Removal of UPPER COVER



2. Removal of FRONT PANEL BLK

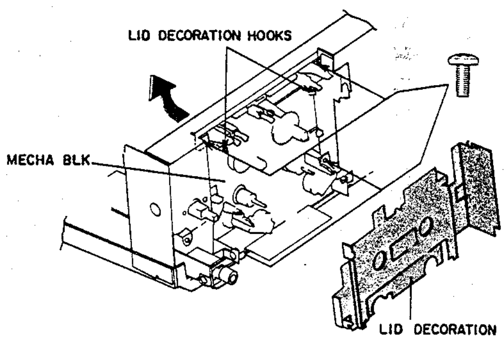


3.



Remove CASSETTE LID first, then remove FRONT PANEL next

4. Removal of MECHA. BLK



1) Remove LID DECORATION while releasing two LID DECORATION HOOKS.
2) Disconnect all the wire connectors from MECHA BLK.
3) Slide the MECHA BLK to bottom a little and extract the MECHA BLK to rear side.

II. PRINCIPAL PARTS LOCATION

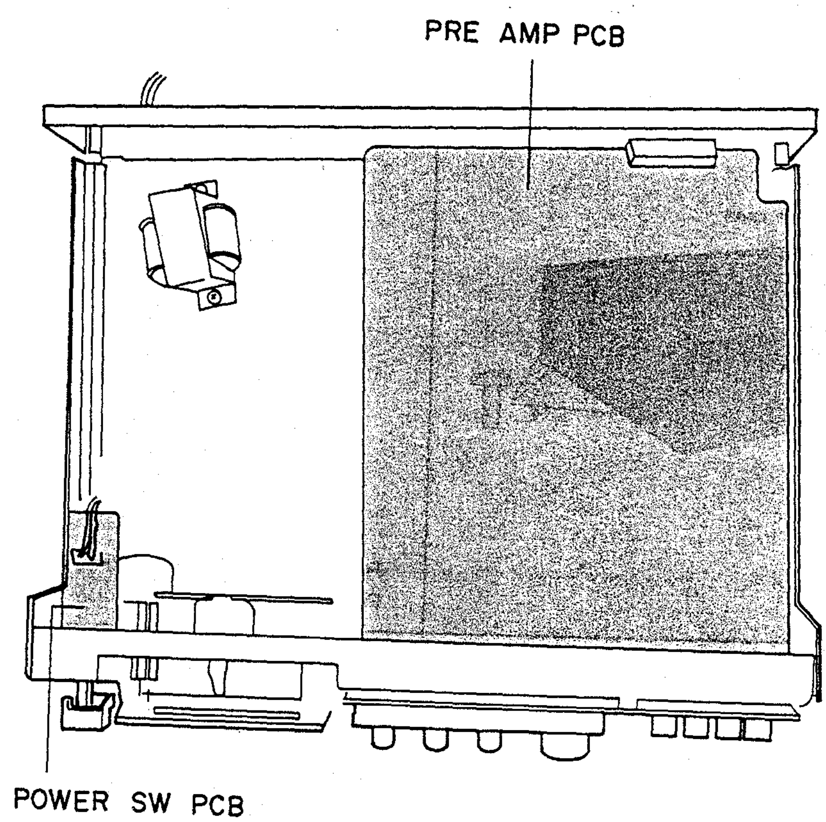


Fig. 2-1

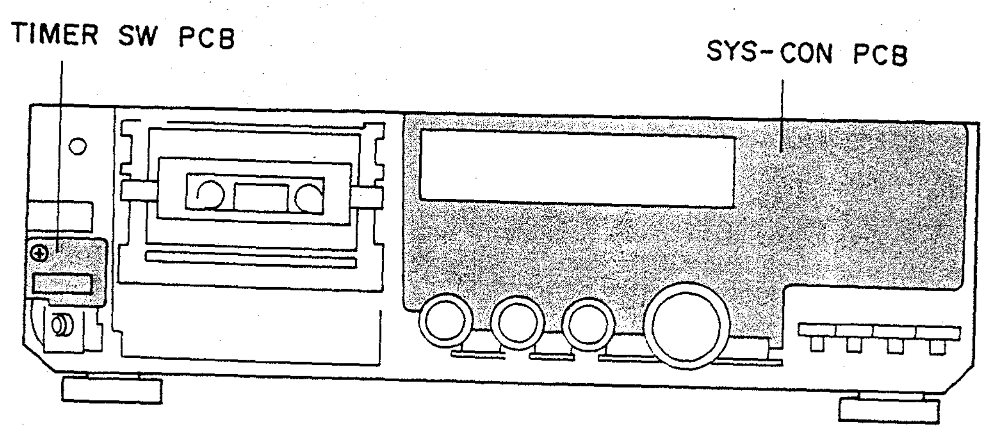


Fig. 2-2

III. PRINCIPAL PARTS REPLACEMENT OF MECHA BLK

3-1. DISASSEMBLY/ASSEMBLY PROCEDURE OF PRINCIPAL PARTS

* Refer to "I. DISASSEMBLY" for removal of MECHA. BLK.

STEP 1	STEP 2
• HEAD BLOCK • PINCH ROLLER BLOCK • SEPARATION OF MECH. BLOCK →	• DRIVE BELT • SOLENOID • REEL MOTOR

3-2. REPLACEMENT OF PINCH ROLLER BLK

3-2-1. TAKE UP PINCH ROLLER BLK

1) Extract TAKE UP PINCH ROLLER BLK to upper direction while releasing the HOOK of TAKE UP PINCH ROLLER BLK.
2) Just push in the TAKE UP PINCH ROLLER BLK when reassemble TAKE UP PINCH ROLLER BLK.

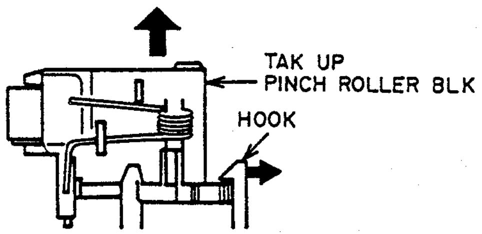


Fig. 3-1

3-2-2. SUPPLY PINCH ROLLER BLK

1) Remove the TAPE GUIDE (A) HEIGHT ADJUSTMENT Ⓐ SCREW (Refer to Fig. 4-6), then remove the SUPPLY PINCH ROLLER BLK.

[NOTE]
After reassemble SUPPLY PINCH ROLLER BLK, 4-4. TAPE GUIDE HEIGHT ADJUSTMENT is neccessary to adjust.

3-3. REPLACEMENT OF REC/PB HEAD

1) Remove HEAD FIXATION SCREWS.
2) Disconnect the lead wires by soldering iron.
3) When reassembling the REC/PB head, connect the lead wires refering Fig. 3-3 by soldering iron. then secure HEAD FIXATION SCREWS.

[NOTE]
Before disconnect the lead wires, confirm that the color of lead wires are same as Fig. 3-3.

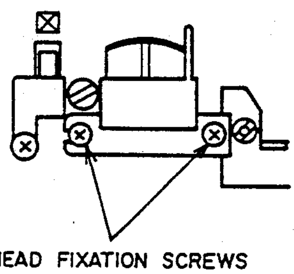


Fig. 3-2

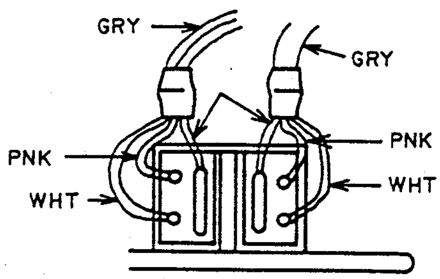


Fig. 3-3

3-4. UPPER AND LOWER SEPARATION OF MECHA. BLK

1) Remove two Ⓐ screws and separate UPPER and LOWER PARTS of MECHA. BLK.

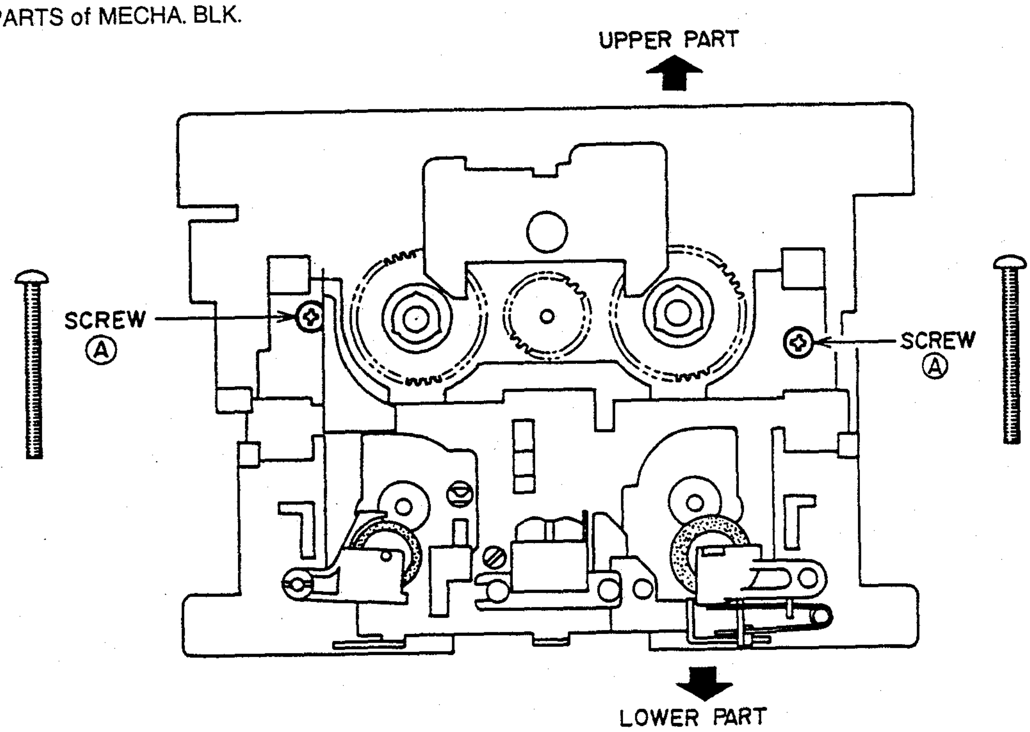


Fig. 3-4

3-5. REPLACEMENT OF CAPSTAN MOTOR

1) Separate UPPER and LOWER of MECHA. BLK (Refer to 3-4. UPPER AND LOWER SEPARATION OF MACHA. BLK)
2) Disconnect the lead wires by soldering iron.
3) Remove MOTOR FIXATION © SCREW.
4) Reassemble in reverse order and set the drive belt on to motor pully.

3-6. REPLACEMENT OF DRIVE BELT

1) Remove two BRACKET fixation Ⓓ SCREWS and remove the BRACKET, then replace the drive belt.
2) Reassemble in reverse order.

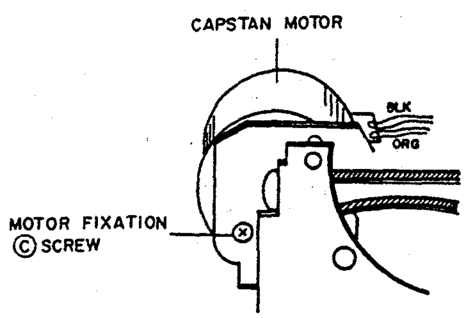


Fig. 3-5

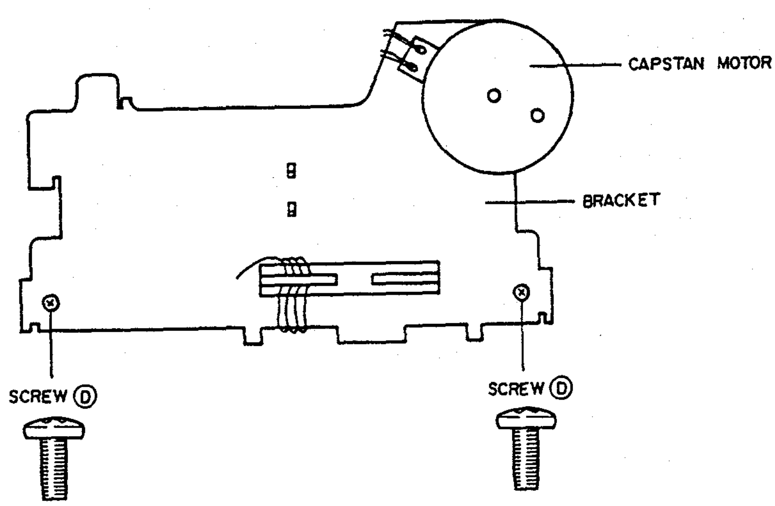


Fig. 3-6

3-7. REPLACEMENT OF REEL MOTOR

1) Remove SOLDER of each detection switches, lead wires from solenoid and REEL MOTOR leads by soldering iron.
2) Remove REEL PULSE DETECTION PCB while releasing the PCB FIXATION HOOKS of REEL PULSE DETECTION PCB on the front side of MECHA. BLK.
3) Remove two REEL MOTOR FIXATION Ⓔ SCREWS and remove REEL MOTOR.
4) Reassemble in reverse order.

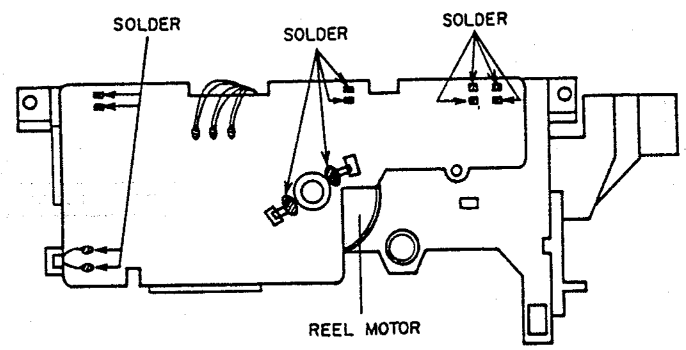


Fig. 3-7

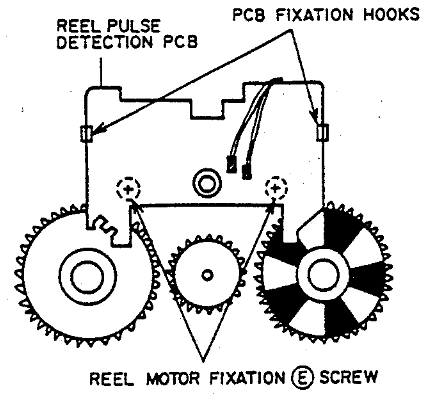


Fig. 3-8

3-8. REPLACEMENT OF SOLENOID

1) Separate UPPER and LOWER PART of MECHA. BLK.(Refer to 3-4. UPPER AND LOWER SEPARATION OF MECHA. BLK)
2) Disconnect the SOLENOID LEAD WIRES by soldering iron.
3) Remove the solenoid while releasing the SOLENOID FIXATION HOOK of solenoid.

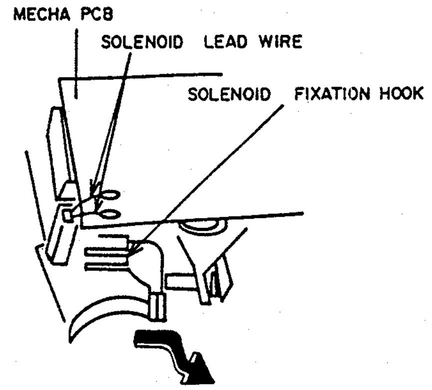


Fig. 3-9

IV. MECHANICAL ADJUSTMENT

4-1. CONFIRMATION OF PINCH ROLLER PRESSURE

Put in PLAY mode. Push TAKE UP PINCH ROLLER arm down with the SPRING GUAGE 1 or 2 mm from the capstan, then release the pressure of the SPRING GUAGE and read the SPRING GUAGE at the moment the TAKE UP PINCH ROLLER touches to the capstan and begins to rotate.
Also confirm the SUPPLY PINCH ROLLER pressure as same manner as above.

Specified pressure
TAKE UP PINCH ROLLER: 320±50 gram
SUPPLY PINCH ROLLER : 200±40 gram

If the specified pressure is not obtained, replace the PINCH ROLLER SPRING.

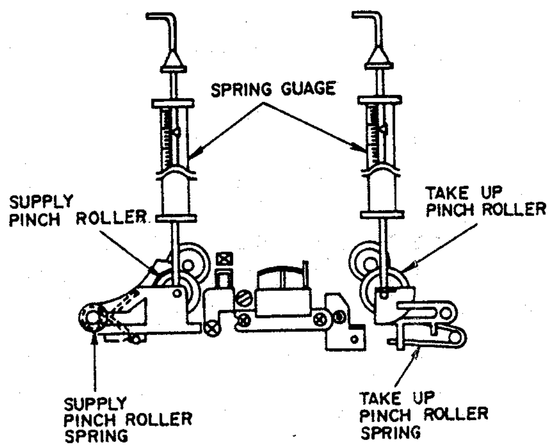


Fig. 4-1

4-2. CONFIRMATION OF WINDING TORQUE IN EACH MODE

Insert a CASSETTE TORQUE METER (AJ-751179) and measure in each mode. For fast forward and rewind, measure at the end of the tape when the tape has stopped running.

PLAY mode
TAKE UP : 35 to 55 gram
BACK TENSION : 4 to 7 gram
FF and REW mode : 70 to 160 gram

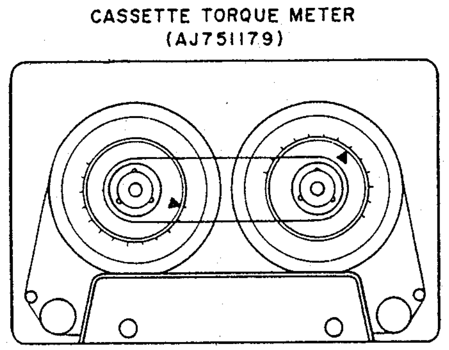


Fig. 4-2

4-3. TAPE SPEED ADJUSTMENT

1) Connect a frequency counter to LINE OUT, and playback a 3150 Hz test tape (AT-751263).
2) Adjust the tape speed control VR (Inside the capstan motor) by small flat screw driver so that the reading on the frequency counter is 3150± 10 Hz.

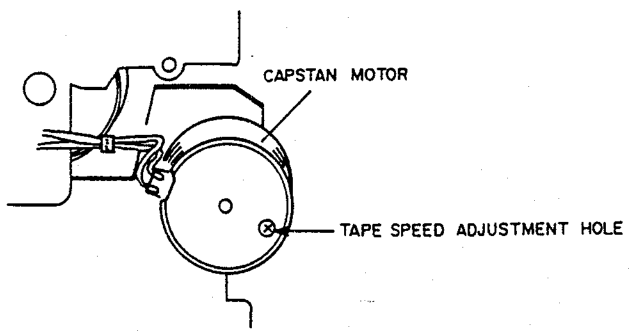


Fig. 4-3

4-4. TAPE GUIDE HEIGHT ADJUSTMENT

1) Set the MIRROR CASSETTE TAPE (AJ-751178) and set to PLAY mode.
2) Adjust the TAPE GUIDE (A) ADJUSTMENT Ⓐ NUT so that the both space (A and A') on the erase head are equal as shown in Fig. 4-5.
3) Similariy turn the REC/PB HEIGHT ADJUSTMENT Ⓑ and Ⓒ SCREWS little by little so that the tape runs smoothly and no curl at the TAPE GUIDES (A) and (B).

※ TAPE GUIDE (A) HEIGHT ADJUSTMENT JIG
Special nut is used in the tape quide (A) height adjustment nut Ⓐ. For easy adjustment, please make height adjustment nut driver by filing ordinary minus screw driver as shown Fig. 4-4.

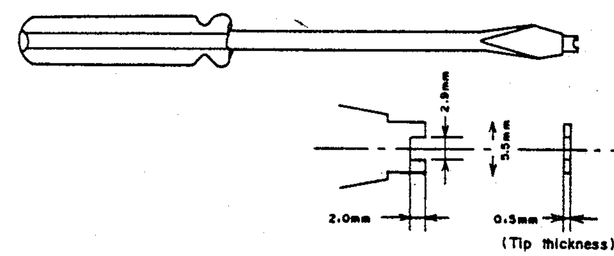


Fig. 4-4

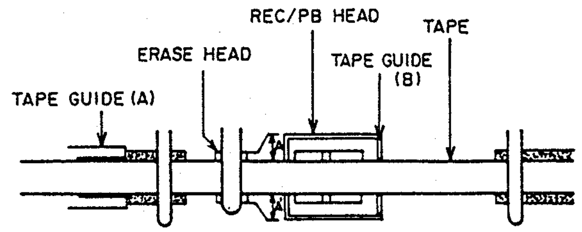


Fig. 4-5

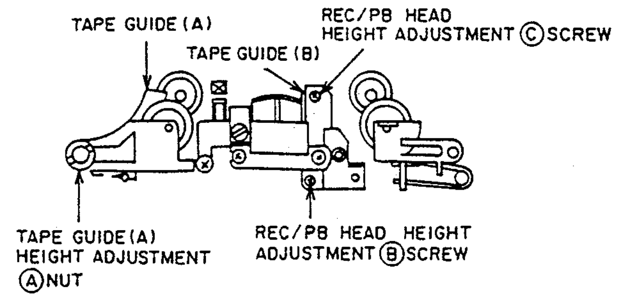


Fig. 4-6

4-5. REC/PB HEAD AZIMUTH ALIGNMENT ADJUSTMENT

1) Connect the AC milli-voltmeters to both L CH and R CH of the LINE OUT and connect CH 1 and CH 2 of oscilloscope to output terminals of AC milli-voltmeters.
2) Play back a 10 kHz, -15VU test tape (AT-750778) and adjust REC/PB HEAD AZIMUTH ALIGNMENT SCREW so that the reading on the AC milli-voltmeters are at maximum and waveforms on the oscilloscope are in the same phase.
3) For best result repeat 4-4. TAPE GUIDE HEIGHT ADJUSTMENT and 4-5. REC/PB HEAD AZIMUTH ALIGNMENT ADJUSTMENT for several times.
4) After adjustment, paint lock the adjustment SCREWS and NUT.

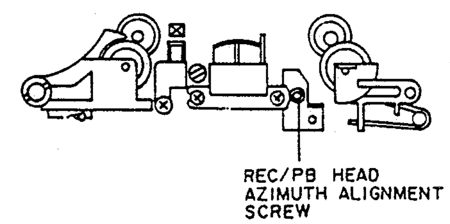


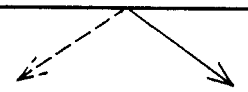
Fig. 4-7

V. ELECTRICAL ADJUSTMENT

[PRECAUTIONS BEFORE ADJUSTMENT]

1. Before adjustment, clean and de-magnetize the heads and tape guides.
2. Set the switches and control knobs are as following, without specified.
   - BIAS volume : CENTER (Click) position
   - REC LEVEL volume : MAX.(10) position
   - REC BALANCE volume : CENTER (Click) position
   - DOLBY NR switch : OFF
   - MPX FILTER switch : OFF
   - CD DIRECT switch : OFF
3. Input signal is supplied from LINE IN.
4. Use the following recording test tapes.
   - NORMAL position : MAXELL UDI 60
   - CrO_2 position : TDK SA 60
   - METAL position : TDK MA 60

STEP	ADJUSTMENT ITEM
	1. TEST TAPE/INPUT SIGNAL 2. MODE 3. TEST POINT, ADJUSTMENT PART 4. •REMARKS * RESULT



9	METAL POSITION BIAS
	1. 1kHz and 10kHz -29.0dBm (LINE OUT), METAL recording test tape. 2. REC PLAY → PLAY (play back) 3. LINE OUT, VR401 4. • Connect AC milli-voltmeter to LINE OUT. * Play back level defference between 1kHz and 10kHz are equal.

7	NORMAL POSITION BIAS
	1. 1kHz and 10kHz -29.0dBm (LINE OUT), NORMAL recording test tape. 2. REC PLAY → PLAY (play back) 3. LINE OUT, VR403 (L CH)/VR403b (RCH) 4. • Connect AC milli-voltmeter to LINE OUT. * Play back level defference between 1kHz and 10kHz are equal.

5	BIAS OSC FREQUENCY
	1. CrO_2 recording test tape 2. REC PLAY 3. P401 pin ①, T401 4. • Connect frequency counter between pin ① and GND. * 100.0kHz

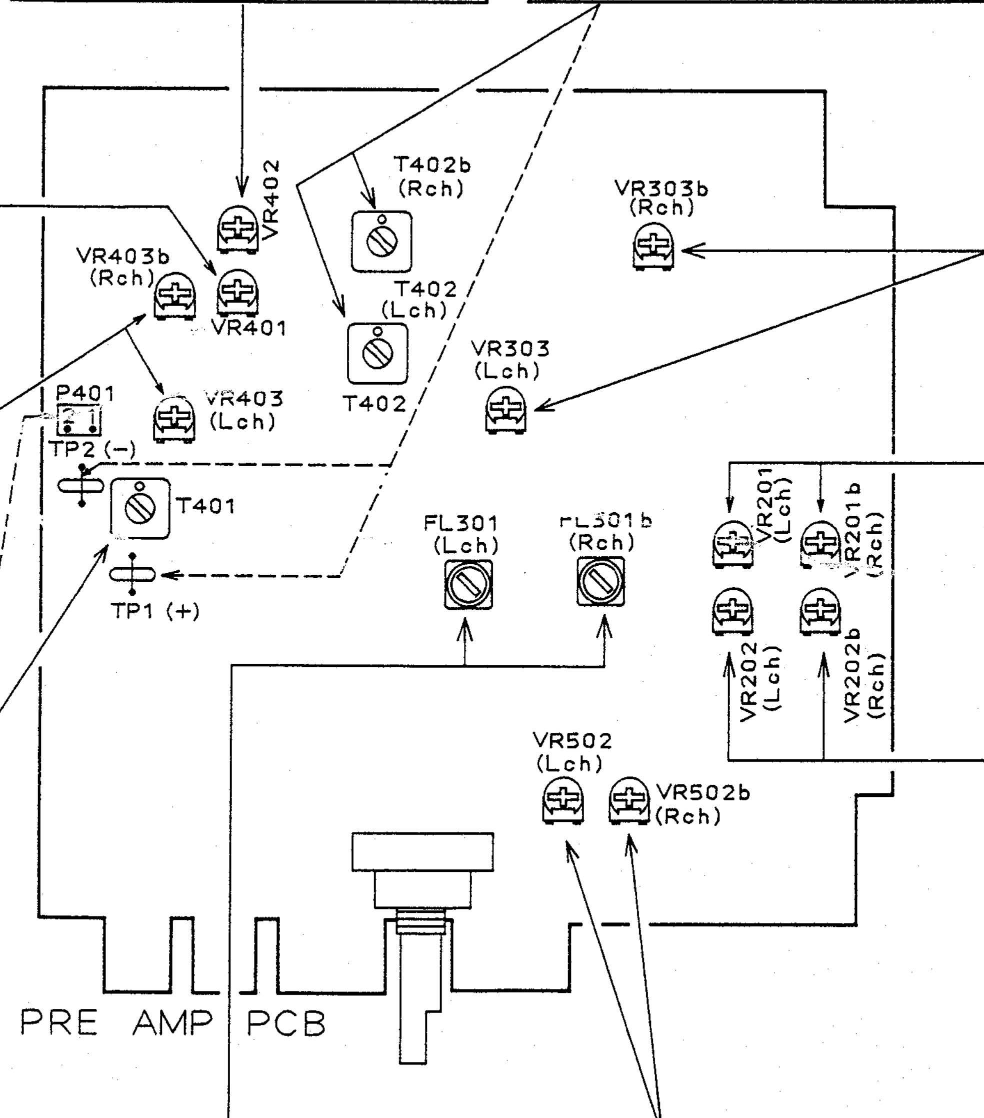
8	CrO_2 POSITION BIAS
	1. 1kHz and 10kHz -29.0dBm (LINE OUT), CrO_2 recording test tape. 2. REC PLAY → PLAY (play back) 3. LINE OUT, VR402 4. • Connect AC milli-voltmeter to LINE OUT. * Play back level defference between 1kHz and 10kHz are equal.

6	HX-PRO RESONANCE FREQUENCY
	1. METAL recording test tape 2. REC PLAY 3. TP1(+) and TP2(-), T402 and T402b 4. • Connect DC voltmeter between TP1(+) and TP2(-). * Reading on the DC voltmeter is at minimum.

10	RECORDING LEVEL
	1. NORMAL Blank Tape 1 kHz, -6.0 dBm at LINE OUT 2. REC → PLAY 3. VR303 (L CH), VR303b (R CH) 4. • Connect AC milli-volt meter to LINE OUT * -6.0dBm

2	PLAYBACK LEVEL
	1. 315Hz test tape (AT-750773) 2. PLAY 3. LINE OUT, VR201 (L CH)/VR201b (R CH) 4. • Connect AC milli-voltmeter to LINE OUT. * -6.0dBm

3	PLAYBACK EQUALIZER
	1. 10kHz test tape (AT-750778) 2. PLAY 3. LINE OUT, VR202 (L CH)/VR202b (R CH) 4. • Connect AC milli-voltmeter to LINE OUT. * -21.0dBm



4	MPX FILTER
	1. 19kHz -6.0dBm (LINE OUT, MPX FILTER switch "OFF") 2. REC PAUSE, MPX FILTER switch "ON". 3. LINE OUT, FL301 (L CH)/FL301b (R CH) 4. • Connect AC milli-voltmeter to LINE OUT. * Minimum output level (Less than -36dBm)

1	LEVEL METER SENSITIVITY
	1. 1kHz -4.5dBm (LINE OUT), NORMAL recording test tape 2. REC PAUSE 3. LEVEL METER, VR502 (L CH)/VR502b (R CH) 4. * White segments on the level meter are completely turned "ON"

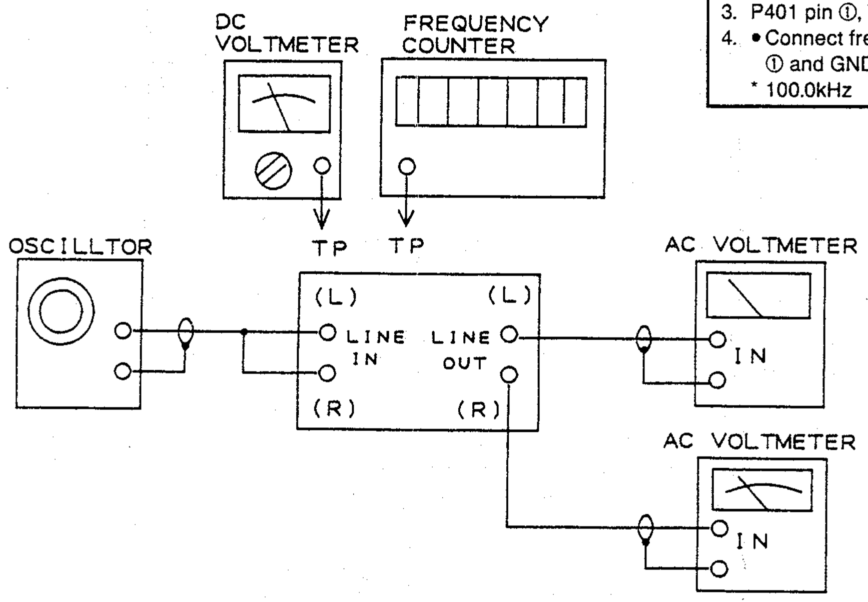


Fig. 5-1 Instrument connection

VI. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref.No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

Ref.No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universal Area)
[C] : CSA (Canada)
[E] : CEE (Europe) [V] : VDE (W. Germany)
[J] : JPN (Japan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

WARNING

⚠ (✱) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

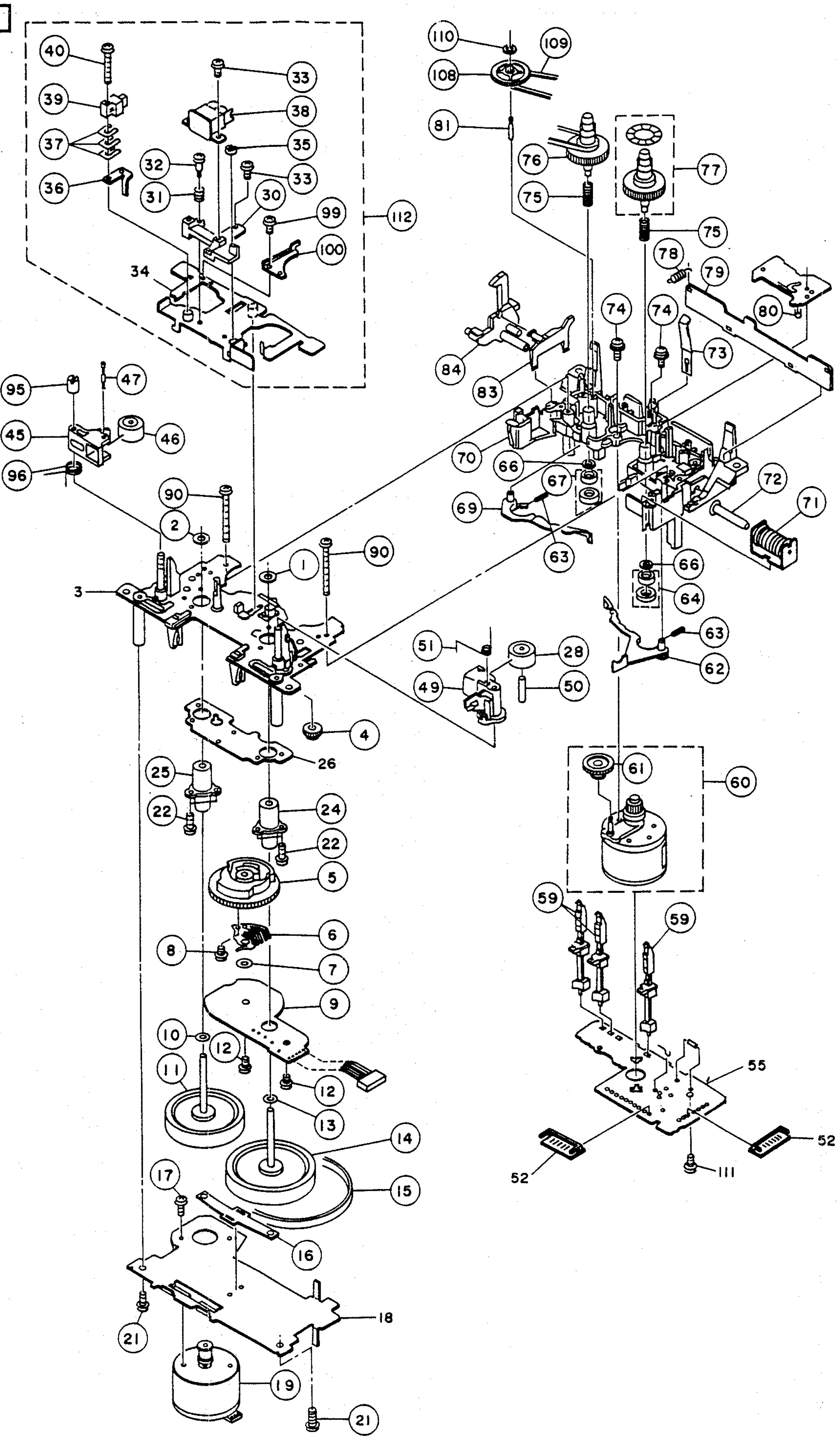
⚠ (✱) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	AX-391577J	REMOCON RC-G65
2	BB-T2118A040B	MECHA BLK GX-65
3	BH-729542J	HEAD BLK GX-65
4	BM-729455J	MOTOR CAPSTAN SHE2L55(GX-Z6100)
5	BM-729478J	MOTOR REEL PART SGE09009
6	*BT-391564J	TRANS POW T2118 BS [B,S]
7	*BT-391563J	TRANS POW T2118 E [E]
8	*BT-391561J	TRANS POW T2118 U [U]
9	ED-307572	D SILICON H 1SS131
10	*ED-389840J	D SILICON 1SR139-100HS F10
11	ED-346573	D ZENER H HZ22-1L
12	ED-346583	D ZENER H HZ30-3L
13	ED-346598	D ZENER H HZ4 C2
14	ED-346602	D ZENER H HZ5 B3
15	ED-343410	D ZENER H HZ6A1L
16	ED-346525	D ZENER H HZ6A3L
17	ED-346532	D ZENER H HZ7A3L
18	ED-351418	D ZENER H HZ7B1L
19	ED-346538	D ZENER H HZ9A2L
20	ED-346546	D ZENER H HZ9C3L
21	*EF-368701	FUSE BET T 250V 250MA [B]
22	*EF-358641	FUSE BET T 250V 800MA [B]
23	*EF-339906	FUSE SEMKO T 250V 250MA [E,S]
24	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
25	*EF-309387	FUSE TSC A 250V 1.00A [U]
26	*EF-309389	FUSE TSC A 250V 400MA [U]
27	EH-370972	FILTER LC LP 370972
28	EI-367572	IC BA15218
29	EI-373980	IC BA15218N
30	EI-353421	IC BA6229
31	EI-384868J	IC BU4030B
32	EI-359985	IC CX20187
33	EI-356327	IC HA12067NT
34	EI-345765	IC LB1292
35	EI-389254J	IC M50743-123SP T2118
36	EI-360043	IC M5220P
37	EI-310036	IC TC4066BP
38	EI-373383	IC UPC1297CA
39	EI-372031	OSC CE W/C FCR8.0MC 8.0MHZ
40	EM-389253J	IND FL CP5388GR DOUBLE
41	EO-389245J	COIL OSC 1 T2118 100.0KHZ
42	EO-389266J	COIL OSC 1 2118 811116036 100K
43	EO-356809	COIL TUN 1 100Z-121 100.00KHZ
44	EO-323982	COIL TUN 1 100Z-431 100.00KHZ
45	EP-729487J	SOLENOID
46	ER-344129	R FUSE H S10 ERD2FC 1/4W 3300G
47	*ER-318248	R FUSE H S10 ERD2FC 1/4W 47R0G
48	*ER-307565	R FUSE H S10 ERD2FC 1/4W 6R8J
49	*ER-344161	R FUSE H S10 ERD2FC 1/4W 82R0G
50	ES-729477J	LEAF SW
51	*ES-371104	SW PUSH SDDLD1 01-1 [POWER]
52	ES-389265J	SW PUSH SPUY33 3THROW
53	ES-729443J	SW ROTARY
54	ES-359606	SW SELECTOR JUH1420-0201 01-4 [U]
55	ES-370965	SW SLIDE SSSU02 1-01-03N [TIMER]
56	ES-349474	SW TACT SKHHAM004A [COUNTER RESET]
57	ET-381637J2	DETECTOR GP1U521X [REMOTE SENSOR]
58	ET-373382	TR DTA143ZS
59	ET-353897	TR DTC114ES
60	ET-354371	TR DTC124ES
61	ET-373391	TR DTC143ZS
62	ET-370310	TR DTC144TS
63	ET-729496J	TR PHOTO NJL5161KF1 B
64	ET-347738	TR 2SA1282A E,F F05
65	ET-352726	TR 2SA1392 T,U
66	ET-389803J	TR 2SA933S R,S
67	ET-389837J	TR 2SC1740S E F05
68	ET-389251J	TR 2SC1740S S F05
69	ET-365394	TR 2SC3242A E,F,G F05
70	ET-378524J	TR 2SC3383 S,T,U
71	ET-400741J	TR 2SC3708 T T05
72	ET-379239	TR 2SD1380 Q,R
73	ET-396072J	TR 2SD2159 V,W
74	*EW-363680	AC CORD 200 LCFL B250 A B [B]
75	*EW-363655	AC CORD 200 0129AVFF B250 A UT [U]
76	*EW-363668	AC CORD 200 0364 LCFL B250 A EV [E]
77	*EW-363694	AC CORD 220 0436 LCFL B250 A S [S]
78	HE-729469J	HEAD E 876-30-03
79	HR-H2408A020A	HEAD COMB RP4-10TG RP4-10TG
80	MB-729506J	BELT
81	MB-729451J	BELT CAPSTAN
82	MI-729448J	FLYWHEEL
83	MI-729453J	FLYWHEEL
84	MP-729460J	PINCH ROLLER
85	MP-729472J	PINCH ROLLER
86	MR-729484J	PULLEY BRAKE (S) PART (BK)
87	MR-729482J	PULLEY BRAKE (T) PART(WH)
88	MR-729505J	PULLEY PART
89	MT-729492J	REEL TABLE (S)
90	MT-729493J	REEL TABLE (T)
91	MZ-729442J	CAM
92	MZ-729441J	GEAR ASSIST
93	MZ-729479J	GEAR IDLER

MECHA BLOCK



2. MECHA BLOCK

Ref.No.	Part No.	Description
1	ZW-729545J	TW25
2	ZW-729440J	TW22
4	MZ-729441J	GEAR ASSIST
5	MZ-729442J	CAM
6	ES-729443J	SW ROTARY
7	ZW-729444J	WASHER 30X080X050 PSL
8	ZS-729445J	PAN 20X03
9	EA-729446J	PC CONTROL
10	ZW-729447J	WASHER
11	MI-729448J	FLYWHEEL
12	ZS-729449J	PAN 20X30
13	ZW-729450J	WASHER 26X047X050 PSL
14	MI-729453J	FLYWHEEL
15	MB-729451J	BELT CAPSTAN
16	MZ-729452J	HOLDER THRUST
17	ZS-729454J	PAN 26X03
19	BM-729455J	MOTOR CAPSTAN SHE2L55 (GX-Z6100)
21	ZS-729456J	SCREW TAPPING 26X08
22	ZS-729457J	ST PAN 20X08
24	MV-729458J	MAIN CASE (L)
25	MV-729459J	MAIN CASE (R)
28	MP-729460J	PINCH ROLLER
30	HZ-729461J	BASE HEAD
31	ZG-729462J	SP AZIMUTH
32	MS-729463J	SHAFT
33	ZS-729464J	ST PAN 26X04
35	ZW-729466J	NUT ADJ
36	HZ-729467J	BASE E HEAD
37A	ZW-729468J	SPACER
37B	ZW-729465J	SPACER
37C	ZW-729546J	SPACER
38	HR-H2408A020A	HEAD COMB RP4-10TG RP4-10TG
39	HE-729469J	HEAD E 876-30-03
40	ZS-729470J	BID 20X12
45	ML-729471J	ARM PINCH ROLLER (S)
46	MP-729472J	PINCH ROLLER
47	MS-729473J	SHAFT PINCH ROLLER
49	ML-729474J	ARM PINCH ROLLER (R)
50	MS-729475J	SHAFT PINCH ROLLER
51	ZG-729476J	SP ARM PINCE ROLLER (R)
59	ES-729477J	LEAF SW
60	BM-729478J	MOTOR REEL PART SGE09009
61	MZ-729479J	GEAR IDLER
62	ML-729480J	LEVER ASSIST (A)
63	ZG-729481J	SP LEVER ASSIST
64	MR-729482J	PULLEY BRAKE (T) PART (WH)
66	ZW-729483J	WASHER 26X055X013 (PSL)
67	MR-729484J	PULLEY BRAKE (S) PART (BK)
69	ML-729485J	LEVER ASSIST (B)
70	TC-729486J	CHASSIS SUB SME2351
71	EP-729487J	SOLENOID
72	MS-729488J	SHAFT SOLENOID
73	ZG-729489J	SP PLATE CASSETTE HOLDER
74	ZS-729490J	SCREW SPECIAL 26X016
75	ZG-729491J	SP REEL TABLE
76	MT-729492J	REEL TABLE (S)
77	MT-729493J	REEL TABLE (T)
78	ZG-729494J	SP PULL CASSETTE PLATE
79	MZ-729495J	PLATE HOLDER CASSETTE
80	ET-729496J	TR PHOTO NJL5161KF1 B
81	MS-729497J	SHAFT PULLEY
83	ML-729498J	LEVER
84	ML-729499J	LEVER EJECT
90	ZS-729500J	PAN 26X30
95	ZS-729501J	SCREW ADJ ARM PINCH ROLER
96	ZG-729502J	SP PINCH ROLER (S)
99	ZS-729503J	PAN 20X025
100	MZ-729504J	STOPPER
108	MR-729505J	PULLEY PART
109	MB-729506J	BELT
110	ZW-729507J	WASHER
112	BH-729542J	HEAD BLK GX-65

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

3. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-T2118A020B	PC (#) PRE AMP BLK GX-65 (U) [U]
1B	BA-T2118A020C	PC (#) PRE AMP BLK GX-65 (E) [E,B,S]
2	BA-T2118A030B	PC (#) SYSCON BLK GX-65

PC (#) PRE AMP BLK CONSISTS OF FOLLOWING P.C BOARD.

- PRE AMP P.C BOARD
- POWER SW P.C BOARD
- HEAD PHONE P.C BOARD

PC- (#) SYS CON BLK CONSISTS OF FOLLOWING P.C BOARD.

- SYS CON P.C BOARD
- TIMER SW P.C BOARD

4. PRE AMP P.C BOARD

Ref.No.	Part No.	Description
C412	EC-427948	C MC V FM 100J 500DC
C414	EC-347247	C MC V F05 FM 101J 500DC
C807	EC-363490	C EC V CUT SME 222M 16.0DC
C808	EC-375358	C EC V CUT SME 103M 16.0DC
D201	ED-351418	D ZENER H HZ7B1L
D202	ED-351418	D ZENER H HZ7B1L
D302	ED-307572	D SILICON H 1SS131
D303	ED-307572	D SILICON H 1SS131
D701	ED-346538	D ZENER H HZ9A2L
D702	ED-346538	D ZENER H HZ9A2L
D703	ED-346573	D ZENER H HZ22-1L
D704	ED-346583	D ZENER H HZ30-3L
D705	ED-346525	D ZENER H HZ6A3L
D706	ED-346546	D ZENER H HZ9C3L
D707	ED-307572	D SILICON H 1SS131
D801	*ED-389840J	D SILICON 1SR139-100HS F10
D802	*ED-389840J	D SILICON 1SR139-100HS F10
D803	*ED-389840J	D SILICON 1SR139-100HS F10
D804	*ED-389840J	D SILICON 1SR139-100HS F10
D805	*ED-389840J	D SILICON 1SR139-100HS F10
D806	*ED-389840J	D SILICON 1SR139-100HS F10
D807	*ED-389840J	D SILICON 1SR139-100HS F10
D808	*ED-389840J	D SILICON 1SR139-100HS F10
D809	*ED-389840J	D SILICON 1SR139-100HS F10
D810	*ED-389840J	D SILICON 1SR139-100HS F10
D811	*ED-389840J	D SILICON 1SR139-100HS F10
D812	ED-343410	D ZENER H HZ6A1L
D813	*ED-389840J	D SILICON 1SR139-100HS F10
D814	ED-346602	D ZENER H HZ5 B3
D822	ED-346598	D ZENER H HZ4 C2
D823	ED-346532	D ZENER H HZ7A3L
D825	ED-307572	D SILICON H 1SS131
F1A	*EF-309389	FUSE TSC A 250V 400MA [U]
F1B	*EF-339906	FUSE SEMKO T 250V 250MA [E,S]
F1C	*EF-368701	FUSE BET T 250V 250MA [B]
F2A	*EF-309389	FUSE TSC A 250V 400MA [U]
F2B	*EF-339906	FUSE SEMKO T 250V 250MA [E,S]
F2C	*EF-368701	FUSE BET T 250V 250MA [B]
F3A	*EF-309387	FUSE TSC A 250V 1.00A [U]
F3B	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
F3C	*EF-358641	FUSE BET T 250V 800MA [B]
F4A	*EF-309387	FUSE TSC A 250V 1.00A [U]
F4B	*EF-258344	FUSE SEMKO T 250V 800MA [E,S]
F4C	*EF-358641	FUSE BET T 250V 800MA [B]

Ref.No.	Part No.	Description
FL201	EO-356809	COIL TUN 1 100Z-121 100.00KHZ
FL301	EH-370972	FILTER LC LP 370972
FL302	EO-323982	COIL TUN 1 100Z-431 100.00KHZ
FR401	*ER-307565	R FUSE H S10 ERD2FC 1/4W 6R8J
FR701	*ER-344161	R FUSE H S10 ERD2FC 1/4W 82R0G
FR702	*ER-318248	R FUSE H S10 ERD2FC 1/4W 47R0G
FR703	ER-344129	R FUSE H S10 ERD2FC 1/4W 3300G
IC201	EI-360043	IC M5220P
IC202	EI-359985	IC CX20187
IC301	EI-359985	IC CX20187
IC302	EI-367572	IC BA15218
IC306	EI-310036	IC TC4066BP
IC401	EI-373383	IC UPC1297CA
IC501	EI-373980	IC BA15218N
IC601	EI-384868J	IC BU4030B
IC822	EI-353421	IC BA6229
J201	EJ-391777J	PIN J YKC21-0018A 4P
L201	EO-372996	COIL FIX 1 RC875 223J
L301	EO-372996	COIL FIX 1 RC875 223J
L302	EO-389896J	COIL FIX 1 RC875 562J
R506	ER-378672J	R OMF H S10 FS 1/2W 181J
R507	ER-378672J	R OMF H S10 FS 1/2W 181J
R826	ER-322787	R CB H S10 FS RDS 1/4W 100J
SW601	ES-389265J	SW PUSH SPUY33 3THROW
T401	EO-389245J	COIL OSC 1 T2118 100.0KHZ
T402	EO-389266J	COIL OSC 1 2118 811116036 100K
TR201	ET-389251J	TR 2SC1740S S F05
TR202	ET-352726	TR 2SA1392 T,U
TR203	ET-378524J	TR 2SC3383 S,T,U
TR301	ET-389251J	TR 2SC1740S S F05
TR302	ET-389251J	TR 2SC1740S S F05
TR303	ET-389251J	TR 2SC1740S S F05
TR304	ET-389251J	TR 2SC1740S S F05
TR305	ET-389251J	TR 2SC1740S S F05
TR306	ET-389251J	TR 2SC1740S S F05
TR308	ET-373382	TR DTA143ZS
TR309	ET-373382	TR DTA143ZS
TR310	ET-360399	TR DTC114TS
TR311	ET-389251J	TR 2SC1740S S F05
TR312	ET-389803J	TR 2SA933S R,S
TR313	ET-389251J	TR 2SC1740S S F05
TR401	ET-396072J	TR 2SD2159 V,W
TR402	ET-354371	TR DTC124ES
TR403	ET-370310	TR DTC144TS
TR404	ET-370310	TR DTC144TS
TR405	ET-400741J	TR 2SC3708 T T05
TR406	ET-400741J	TR 2SC3708 T T05
TR407	ET-389837J	TR 2SC1740S E F05
TR408	ET-389837J	TR 2SC1740S E F05
TR409	ET-373391	TR DTC143ZS
TR701	ET-365394	TR 2SC3242A E,F,G F05
TR702	ET-347738	TR 2SA1282A E,F F05
TR703	ET-379239	TR 2SD1380 Q,R
TR704	ET-389251J	TR 2SC1740S S F05
TR705	ET-396072J	TR 2SD2159 V,W
TR706	ET-378524J	TR 2SC3383 S,T,U
TR801	ET-389251J	TR 2SC1740S S F05
TR821	ET-353897	TR DTC114ES
TR823	ET-396072J	TR 2SD2159 V,W
TR824	ET-353897	TR DTC114ES
TR825	ET-396072J	TR 2SD2159 V,W
TR826	ET-353897	TR DTC114ES
TR827	ET-396072J	TR 2SD2159 V,W
TR828	ET-353897	TR DTC114ES
VR201	EV-356575	R S-FIX H RH0615C 0.10W 222
VR202	EV-362115	R S-FIX H RH0615C 0.10W 153
VR301	EV-389259J	VR ROTARY RK1631110IEAA W254 [REC BALANCE]
VR302	EV-389260J	VR ROTARY RK16Y12BO 104X2 [REC LEVEL]
VR303	EV-358829	R S-FIX H RH0615C 0.10W 223
VR401	EV-356577	R S-FIX H RH0615C 0.10W 103
VR402	EV-358861	R S-FIX H RH0615C 0.10W 683
VR403	EV-356679	R S-FIX H RH0615C 0.10W 682
VR404	EV-389258J	VR ROTARY RK1631110 B102 [BIAS]
VR501	EV-389262J	VR ROTARY RK16312AO A503X2 [PHONES LEVEL]
VR502	EV-356582	R S-FIX H RH0615C 0.10W 473

5. POWER SW P.C BOARD

Ref.No.	Part No.	Description
C801A	*EC-320548	C CE V F 103Z 250AC [U]
C801B	*EC-338411	C CE V DE7 FZ 103P 400AC [E,S,B]
SW801	*ES-371104	SW PUSH SDDLD1 01-1 [POWER]

6. HEAD PHONE P.C BOARD

Ref.No.	Part No.	Description
J501	EJ-369995	PHONE J 3P HLJ0540-410 GP 6.3 [PHONES]

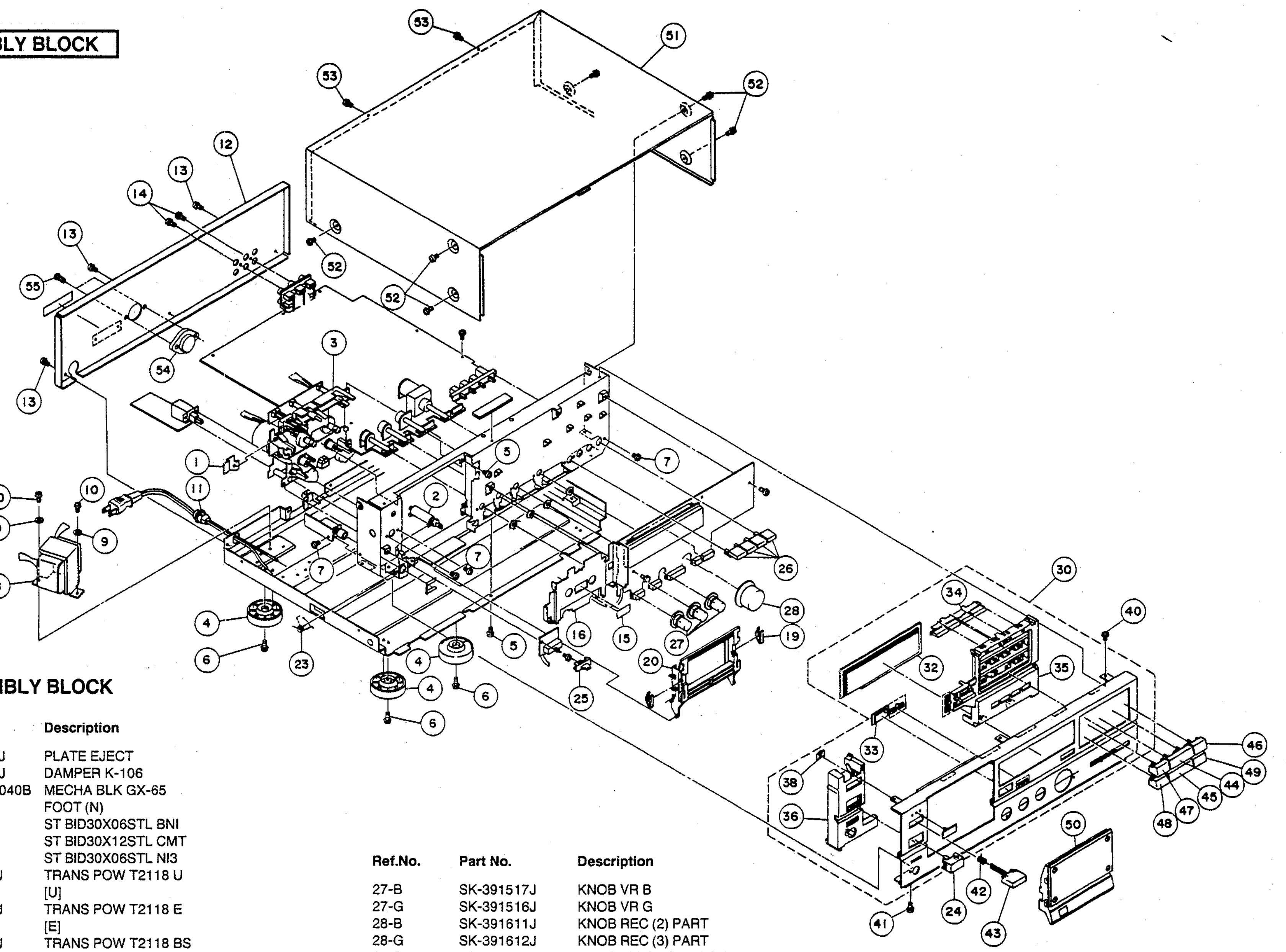
7. SYSCON P.C BOARD

Ref.No.	Part No.	Description
D101	ED-307572	D SILICON H 1SS131
D102	ED-307572	D SILICON H 1SS131
D103	ED-307572	D SILICON H 1SS131
IC101	EI-389254J	IC M50743-123SP T2118
IC102	EI-356327	IC HA12067NT
IC103	EI-345765	IC LB1292
IC104	EI-345765	IC LB1292
IC105	EI-345765	IC LB1292
IC106	EI-345765	IC LB1292
IN101	EM-389253J	IND FL CP5388GR DOUBLE
RM101	ET-381637J2	DETECTOR GP1U521X [REMOTE SENSOR]
TR101	ET-389251J	TR 2SC1740S S F05
TR102	ET-373391	TR DTC143ZS
TS101	ES-349474	SW TACT SKHHAM004A [COUNTER RESET]
TS104	ES-349474	SW TACT SKHHAM004A [MEMORY]
TS105	ES-349474	SW TACT SKHHAM004A [REW]
TS106	ES-349474	SW TACT SKHHAM004A [PLAY]
TS107	ES-349474	SW TACT SKHHAM004A [FF]
TS108	ES-349474	SW TACT SKHHAM004A [REC PAUSE]
TS109	ES-349474	SW TACT SKHHAM004A [STOP]
TS110	ES-349474	SW TACT SKHHAM004A [REC MUTE]
TS111	ES-349474	SW TACT SKHHAM004A [MONITOR]
X101	EI-372031	OSC CE W/C FCR8.0MC 8.0MHZ

8. TIMER SW P.C BOARD

Ref.No.	Part No.	Description
SW101	ES-370965	SW SLIDE SSSU02 1-01-03N [TIMER]

FINAL ASSEMBLY BLOCK



9. FAINAL ASSEMBLY BLOCK

Ref.No.	Part No.	Description
1	MZ-391475J	PLATE EJECT
2	MZ-391606J	DAMPER K-106
3	BB-T2118A040B	MECHA BLK GX-65
4	SA-379375	FOOT (N)
5	ZS-305827	ST BID30X06STL BNI
6	ZS-336714	ST BID30X12STL CMT
7	ZS-305826	ST BID30X06STL NI3
8A	*BT-391561J	TRANS POW T2118 U [U]
8B	*BT-391563J	TRANS POW T2118 E [E]
8C	*BT-391564J	TRANS POW T2118 BS [B,S]
9	ZW-273914	SW40
10	ZS-322580	ST BID40X08STL BNI
11A	*EW-363655	AC CORD 200 0129AVFF B250 A UT [U]
11B	*EW-363668	AC CORD 200 0364 LCFL B250 A EV [E]
11C	*EW-363680	AC CORD 200 LCFL B250 A B [B]
11D	*EW-363694	AC CORD 220 0436 LCFL B250 A S [S]
12A	SP-400640J	PANEL REAR GX-65-2 (U) [U]
12B	SP-400641J	PANEL REAR GX-65-2 (E) [E,B]
12C	SP-400642J	PANEL REAR GX-65-2 (B,S) [S]
13	ZS-358953	ST BID30X08STL BNI
14	ZS-331532	PT BID30X08STL BNI
15	SZ-357722	REFLECTOR
16	SP-391527J	DECORATION PLATE MECHA
19	ZG-336615	SP PLATE CASSETTE HOLDER (B)
20	TC-391477J	CASSETTE CASE
23	ZG-391478J	SP TORSION CASSETTE
24-B	SK-373236B	KNOB POWER-B
24-G	SK-373236A	KNOB POWER-G
25-B	SK-391526J	KNOB SLIDE B
25-G	SK-391525J	KNOB SLIDE G
26-B	SB-391524J	BUTTON PUSH B
26-G	SB-391523J	BUTTON PUSH G

Ref.No.	Part No.	Description
27-B	SK-391517J	KNOB VR B
27-G	SK-391516J	KNOB VR G
28-B	SK-391611J	KNOB REC (2) PART
28-G	SK-391612J	KNOB REC (3) PART
30-B	BD-T2118A060A	PANEL FRONT BLK GX-65-B
30-G	BD-T2118A060C	PANEL FRONT BLK GX-65-G
32	SE-391502J	WINDOW METER
34-B	SK-384079J1	KNOB B
34-G	SK-384078J1	KNOB
35-B	SB-391491J	BUTTON OPERATE B
35-G	SK-391490J	BUTTON OPERATE G
36-B	SP-391534J	ESCUTCHEON SIDE B
36-G	SP-391533J	ESCUTCHEON SIDE G
40	ZS-305827	ST BID30X06STL BNI
41	ZS-331532	PT BID30X08STL BNI
42	ZG-392662J	SP PUSH OPEN
43-B	SB-391513J	BUTTON EJECT B
43-G	SB-391512J	BUTTON EJECT G
44-B	SB-391519J	BUTTON PLAY B
44-G	SB-391518J	BUTTON PLAY G
45-B	SK-381988J	KNOB OPERATION (A2) STOP B
45-G	SK-391122J	KNOB OPERATION (A2) STOP (T) G
46-B	SK-373337A	KNOB OPERATION (B) FF-BLACK
46-G	SK-391123J	KNOB OPERATION (B) FF (T) G
47-B	SK-373337C	KNOB OPERATION (B) REW-BLACK
47-G	SK-391114J	KNOB OPERATION (B) REW (T) G
48-B	SK-373337E	KNOB OPERATION (B) PAUSE-BLACK
48-G	SK-391115J	KNOB OPERATION (B) PAUSE (T) G
49-B	SK-373337G	KNOB OPERATION (B) MUTE B
49-G	SK-391117J	KNOB OPERATION (B) MUTE (T) G
50-B	BD-T2118A070F	LID PANEL BLK GX-65-2B
50-G	BD-T2118A070G	LID PANEL BLK GX-65-2G
51-B	SP-391493J	COVER UPPER B
51-G	SP-391492J	COVER UPPER G

Ref.No.	Part No.	Description
52-B	ZS-322580	ST BID40X08STL BNI
52-G	ZS-322570	ST BID40X08STL NI3
53	ZS-358953	ST BID30X08STL BNI
54	ES-359606	SW SELECTOR JUH1420-0201 01-4 [U]
55	ZS-361450	ST BID30X10STL CMT [U]

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

10. ACCESSARY

Ref.No.	Part No.	Description
1	EW-383168J	CORD TC-C-05S P-P 2P 2PCS
2	AX-391577J	REMOCON RC-G65

MEMO

ABBREVIATIONS (CASSETTE)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AC	Alternating Current	MIN	MINute
A/D	Analog/Digital	MML	Maximum Modulation Level
AF	Auto Fader	MOL	Maximum Output Level
AMP	AMPlifier	MPX	Multi PleX
AR	Anti Recording	NC	Not Connected (No Connection)
AT BIAS	Auto Turning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMal
BAL	BALance	NR	Noise Reduction
BEF	Band Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
CAP M	CAPstan Motor	PB	Play Back
CH	CHannel	QMSS	Quick Memory Search System
COMP	COMParator	QR	Quick Reverse
CONT	CONTinuance	R CH	Right CHannel
CRLP	Computer Recording Level Processing	REC	RECord (RECording)
CS	Chip Select	REV	REVerse
D/A	Digital/Analog	ROT	ROTation
DC	Direct Current	REW	REWind
DET	DETector	SEC	SECond
DISCRI	DISCRIminator	SELE	SELEctor
DUB	DUBbing	SENS	SENSitivity
EQ	EQualizer	SEPP	Single Ended Push Pull
FF (or F.FWD)	Fast Foward	SIG	SIGnal
FLD	FLuoresent Display	SPECT	SPECTrum
FREQ	FREQuency	STD	STanDard
FWD	ForWarD	SW	SWitch
GND	GrouND	SYSCON	SYStem CONtrol
H	High	TP	Test Point
HPF	High Pass Filter	TRIG	TRIGa
IND	INDicator	VCA	Voltage Control Attenuator
IPLS	Instant Program Location System	VOL	VOLume
L	Low	VOLT	VOLtage
L CH	Left CHannel	VR	Variable Resistor
LED	Light Emitining Diode	X'TAL	cysTAL
MEMO	MEMOry	X1	Normal speed
MICOM	MIcroCOMputer	X2	Dubble speed

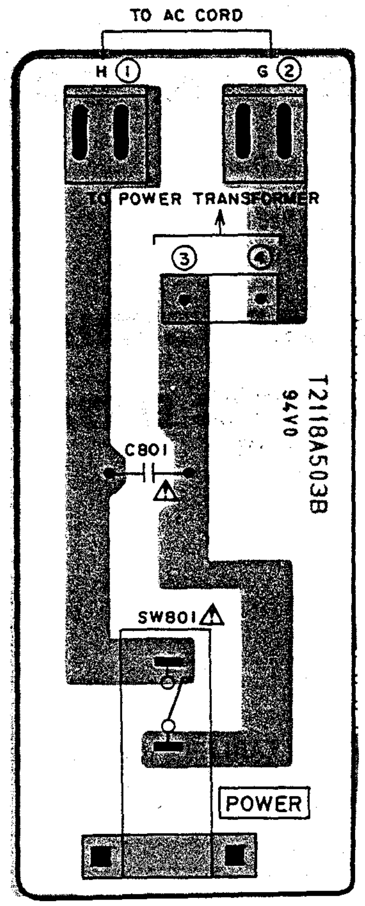
AKAI ELECTRIC CO., LTD.
12-14, 2-Chome, Higashi-Kojiya, Ohta-ku, Tokyo, Japan
SERVICE DEPARTMENT TEL:TOKYO (745)9884 TELEX: J26261
Printed No 901213-A1-1441 Printed Date January 23, 1991

AKAI

MODEL GX-65MKII

SCHEMATIC DIAGRAMS AND PC BOARDS

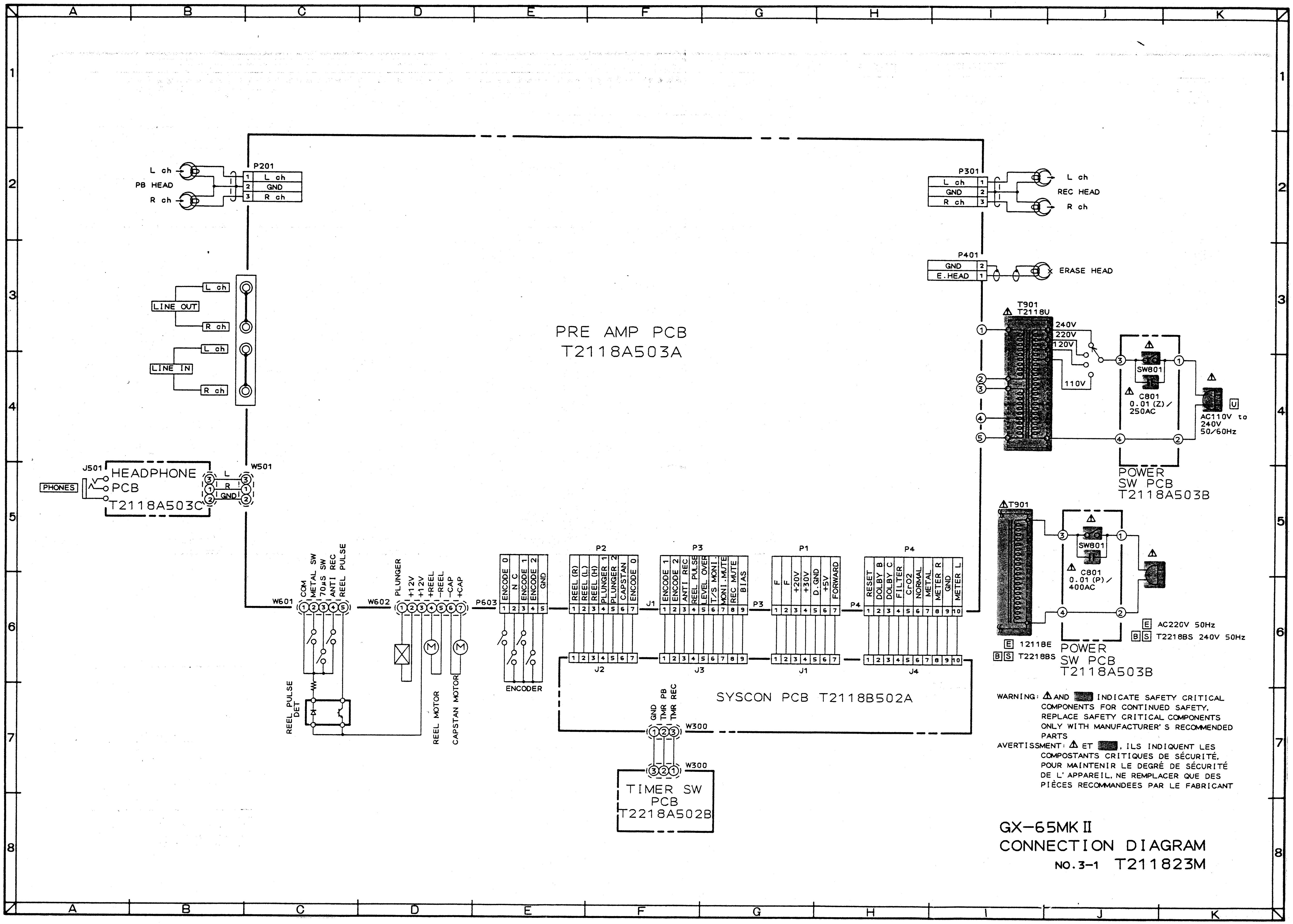
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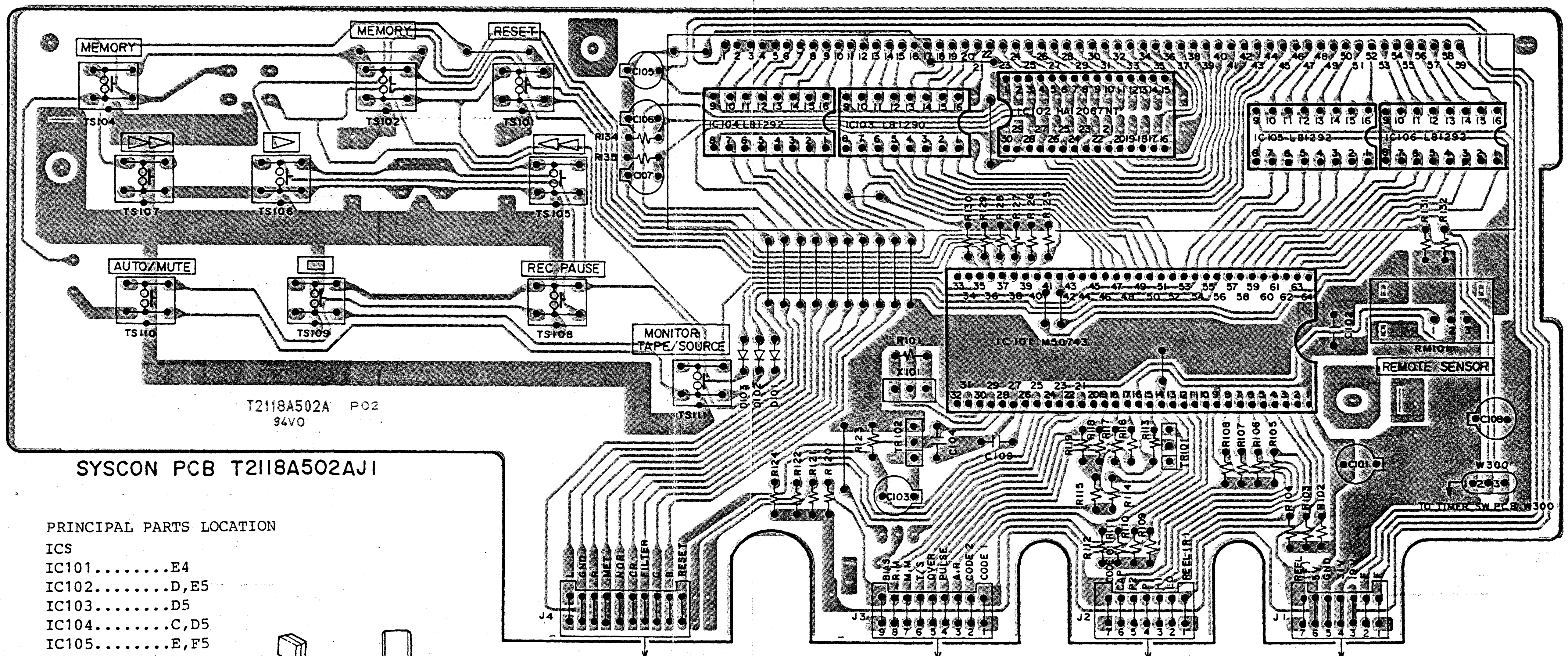


POWER SW PCB
T2118A503B

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT


PB HEAD
L ch
R ch
P201
L ch
GND
R ch
P301
REC HEAD
P401
ERASE HEAD
E.HEAD
LINE OUT
LINE IN
PRE AMP PCB
T2118A503A
J501
PHONES
HEADPHONE PCB
T2118A503C
W501
T901
T2118U
240V
220V
120V
110V
SW801
C801
0.01 (Z)/
250AC
AC110V to
240V
50/60Hz
POWER
SW PCB
T2118A503B
C801
0.01 (P)/
400AC
E 1211BE
BS T2218BS
E AC220V 50Hz
BS T2218BS 240V 50Hz
W601
COM
METAL SW
70μS SW
ANTI REC
REEL PULSE
W602
PLUNGER
+12V
+12V
+REEL
−REEL
−CAP
+CAP
P603
ENCODE 0
N.C
ENCODE 1
ENCODE 2
GND
P2
REEL (R)
REEL (L)
REEL (H)
PLUNGER 1
PLUNGER 2
CAPSTAN
ENCODE 0
P3
ENCODE 1
ENCODE 2
ANTI REC
REEL PULSE
LEVEL OVER
T/S MONI.
MONI.MUTE
REC MUTE
BIAS
P1
F
F
+20V
+30V
D.GND
+5V
FORWARD
P4
RESET
DOLBY B
DOLBY C
FILTER
CrO2
NORMAL
METAL
METER R
GND
METER L
J1
J2
J3
J4
REEL PULSE DET
REEL MOTOR
CAPSTAN MOTOR
ENCODER
SYSCON PCB T2118B502A
GND
TMR PB
TMR REC
W300
TIMER SW
PCB
T2218A502B
WARNING: ⚠ AND ▓ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSMENT: ⚠ ET ▓, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT
GX-65MK II
CONNECTION DIAGRAM
NO.3-1 T211823M



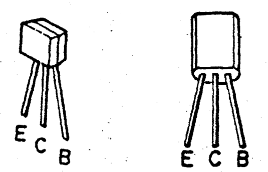
SYSCON PCB T2118A502AJ1

PRINCIPAL PARTS LOCATION

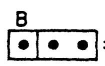
ICS
IC101.........E4
IC102.........D,E5
IC103.........D5
IC104.........C,D5
IC105.........E,F5
IC106.........F5

TRANSISTORS
TR101.........E4
TR102.........D3,4

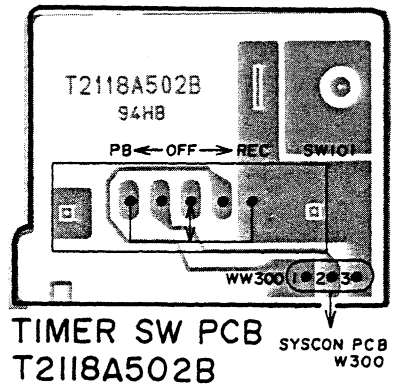
CONNECTORS
W100.........D3
W200.........D3
W300.........D3
J1...........F3
J2...........E3
J3...........D3
J4...........C3



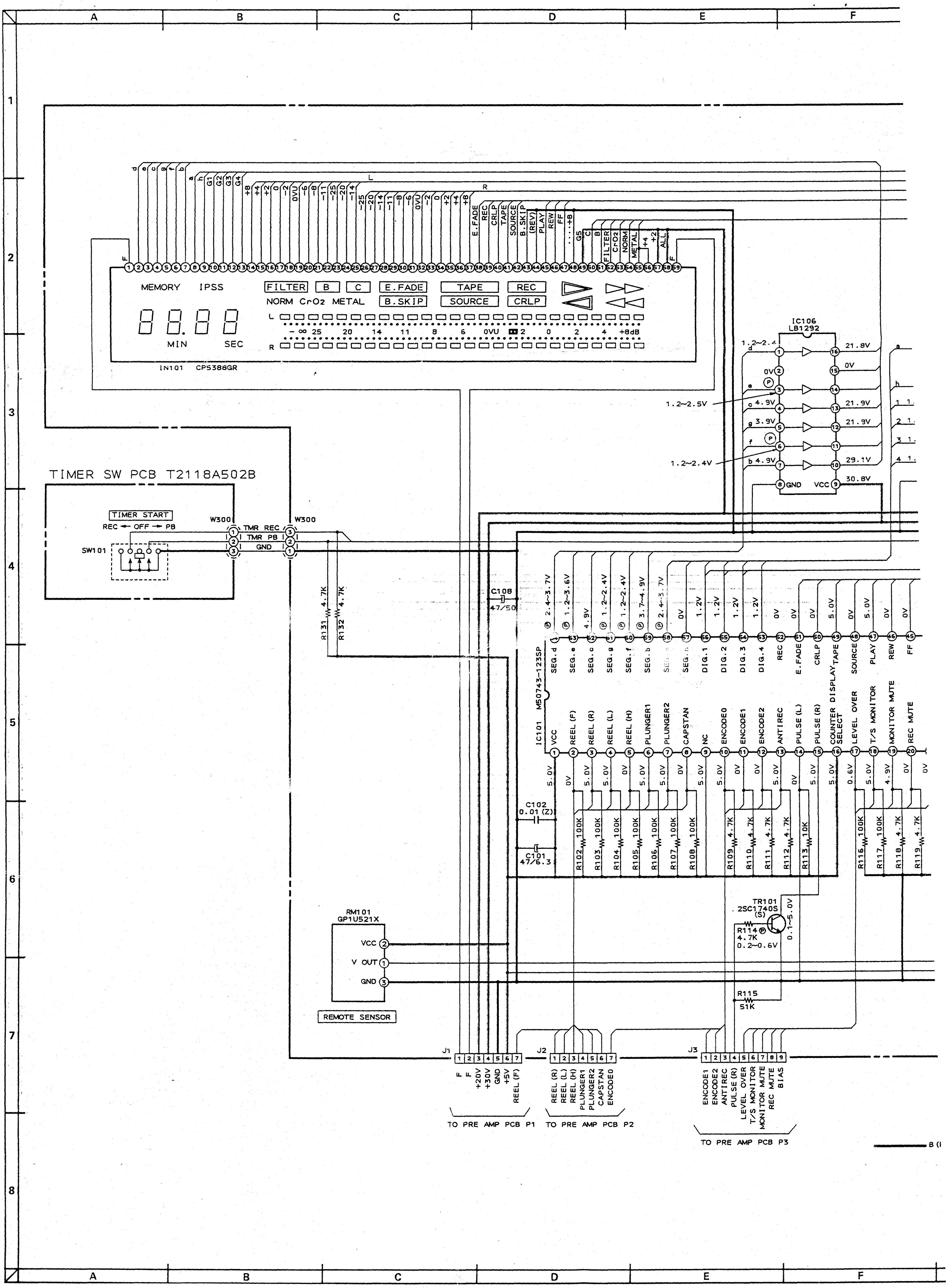
DTC143ZS 2SC1740S



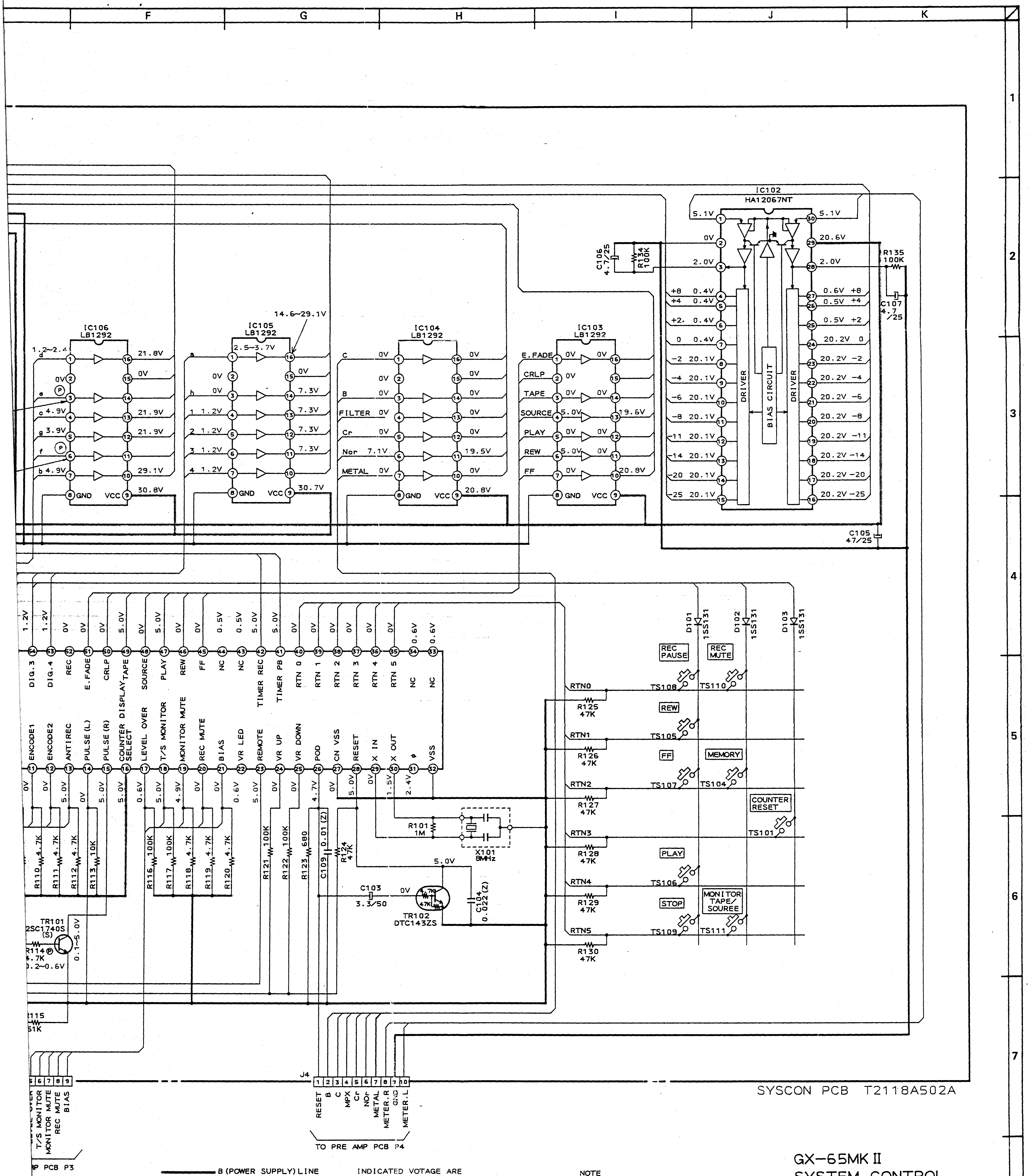
=NPN TRANSISTOR



TIMER SW PCB
T2118A502B



MEMORY IPSS
FILTER B C E.FADE TAPE REC
NORM CrO2 METAL B.SKIP SOURCE CRLP
MIN SEC
IN101 CPS388GR
IC106 LB1292
TIMER SW PCB T2118A502B
TIMER START
REC ← OFF → PB
SW101
W300
TMR REC
TMR PB
GND
R131 4.7K
R132 4.7K
C108 47/50
IC101 M50743-123SP
C102 0.01 (Z)
C101 47/6.3
RM101 GP1U521X
VCC
V OUT
GND
REMOTE SENSOR
TR101 2SC1740S (S)
R114 4.7K
R115 51K
J1
J2
J3
TO PRE AMP PCB P1
TO PRE AMP PCB P2
TO PRE AMP PCB P3

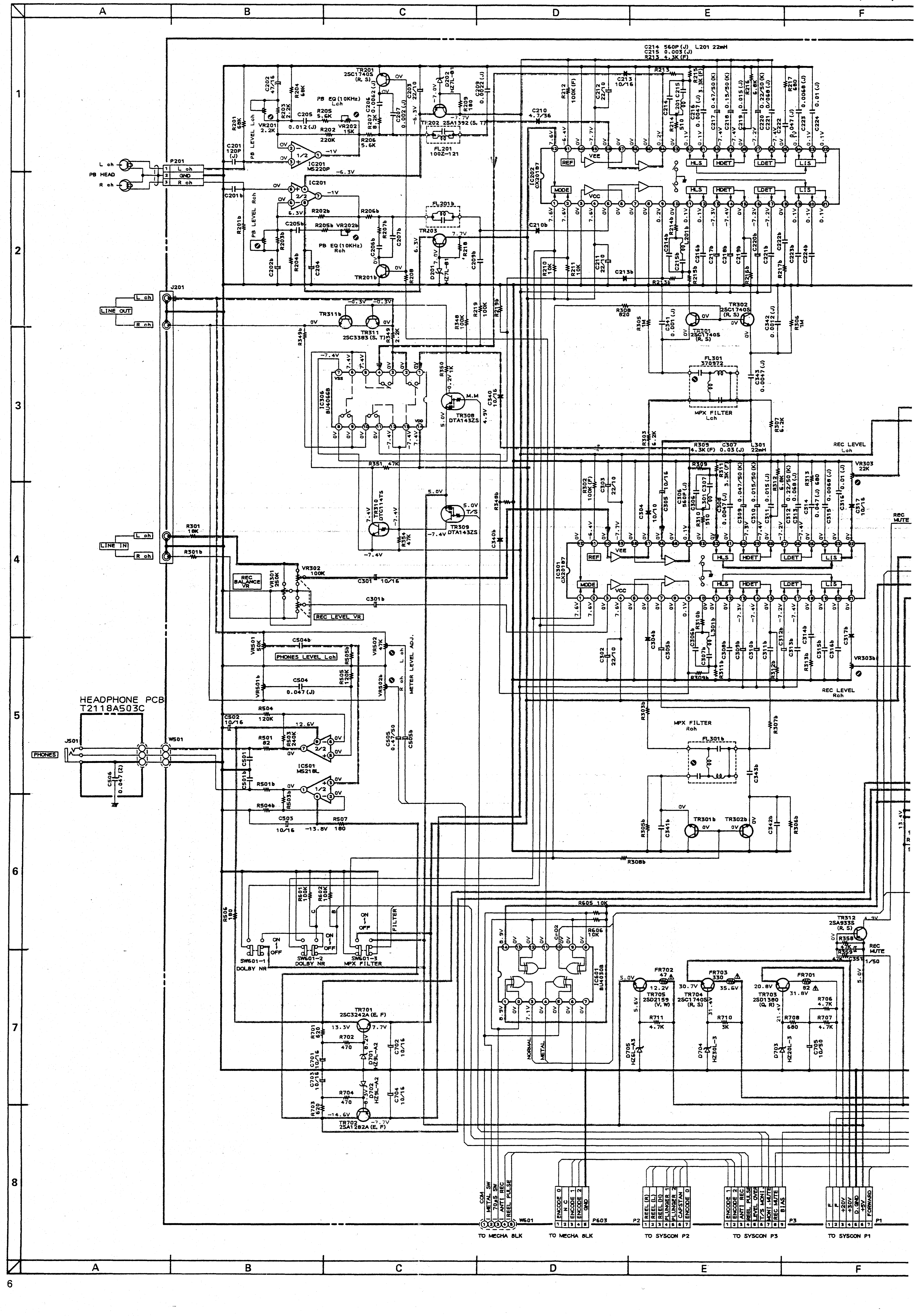


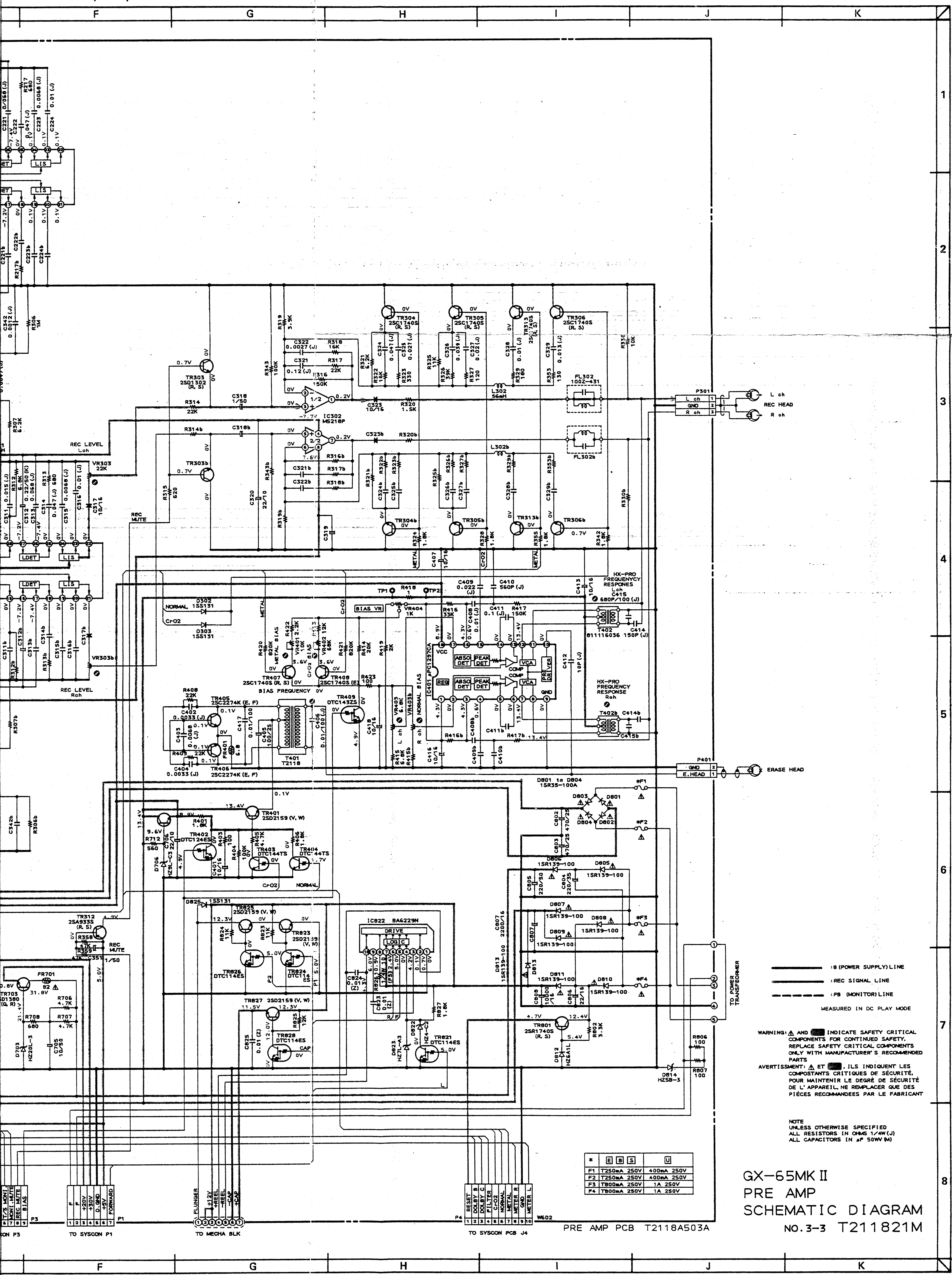
B (POWER SUPPLY) LINE

INDICATED VOTAGE ARE
MEASURED BY DIGITAL VOLTMETER
ON NORMAL TAPE PLAYING

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)

GX–65MK II
SYSTEM CONTROL
SCHEMATIC DIAGRAM
NO.3–2 T211822M


HEADPHONE PCB
T2118A503C
PHONES
LINE OUT
LINE IN
PB HEAD
PB LEVEL Lch
PB LEVEL Rch
PB EQ (10KHz) Lch
PB EQ (10KHz) Rch
REC BALANCE VR
REC LEVEL VR
PHONES LEVEL Lch
METER LEVEL ADJ.
MPX FILTER Lch
MPX FILTER Rch
REC LEVEL Lch
REC LEVEL Rch
REC MUTE
SW601-1 DOLBY NR
SW601-2 DOLBY NR
SW601-3 MPX FILTER
IC201 M5220P
IC202 CX20187
IC301 CX20187
IC306 BU4066B
IC501 M5218L
IC601 BU4030B
TO MECHA BLK
TO SYSCON P2
TO SYSCON P3
TO SYSCON P1



: B (POWER SUPPLY) LINE

: REC SIGNAL LINE

: PB (MONITOR) LINE

MEASURED IN DC PLAY MODE

WARNING: ⚠ AND ■ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

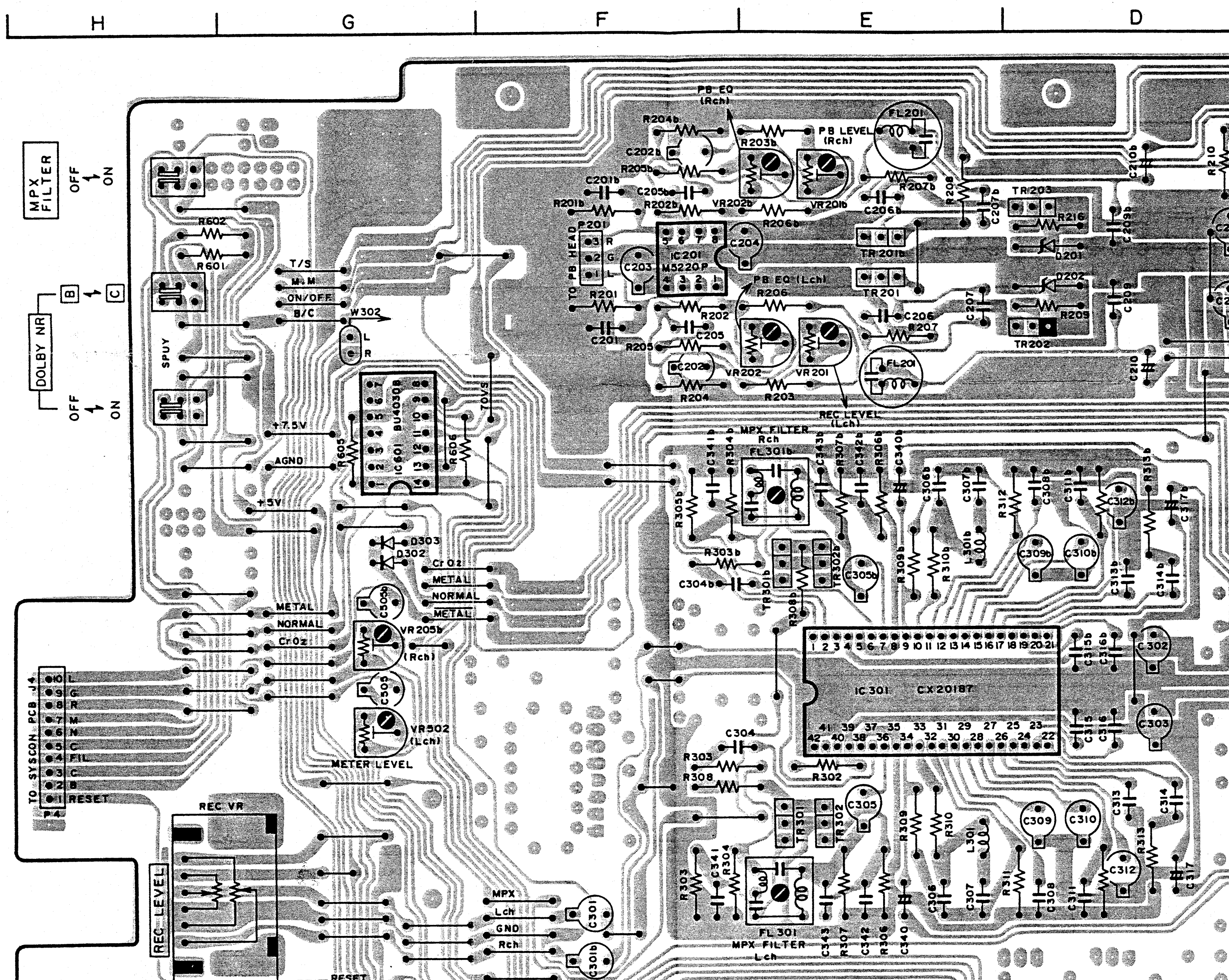
AVERTISSMENT: ⚠ ET ■, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN µF 50WV (M)

*	E B S	U
F1	T250mA 250V	400mA 250V
F2	T250mA 250V	400mA 250V
F3	T800mA 250V	1A 250V
F4	T800mA 250V	1A 250V

GX-65MK II PRE AMP SCHEMATIC DIAGRAM

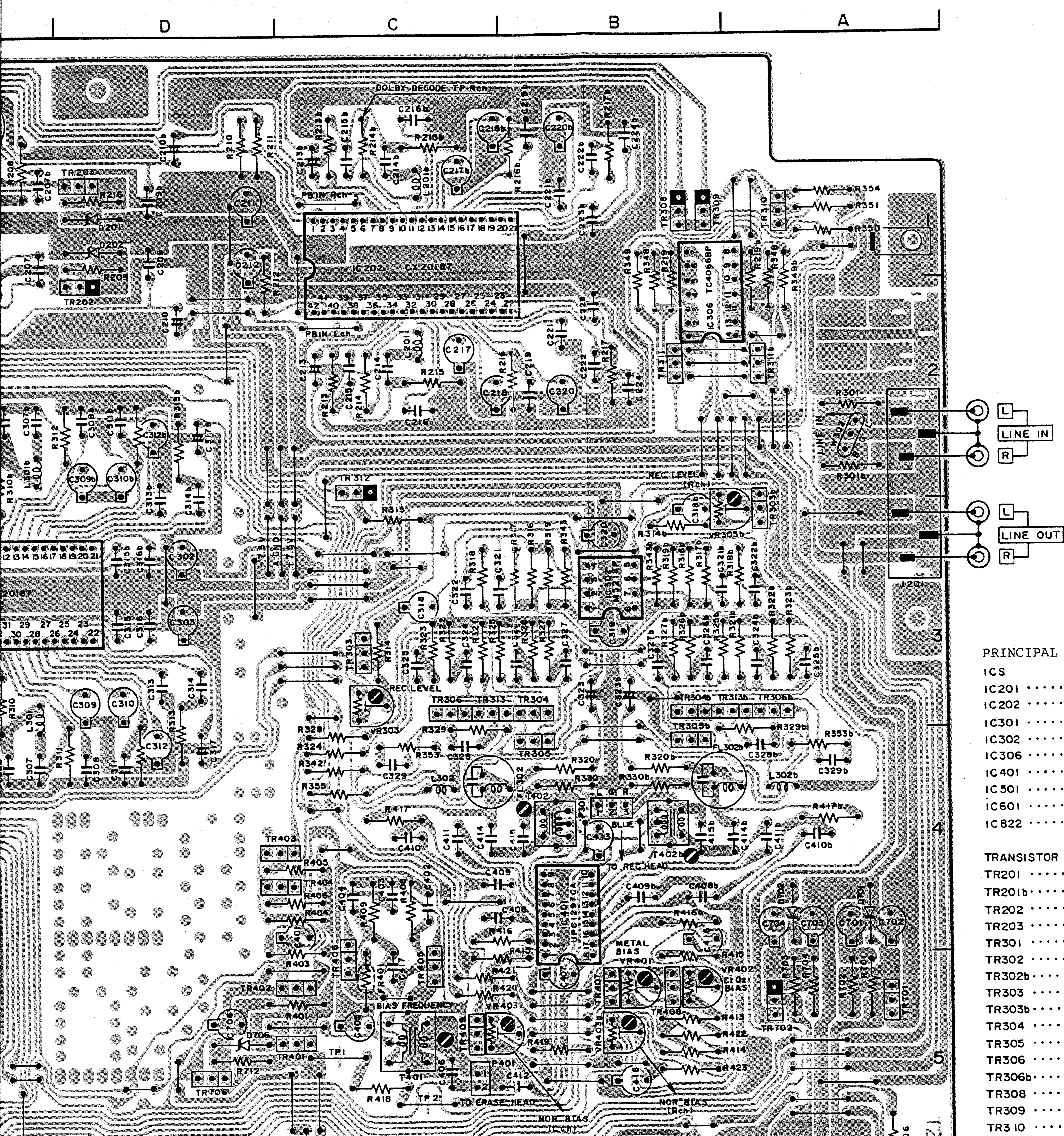
NO. 3-3 T211821M



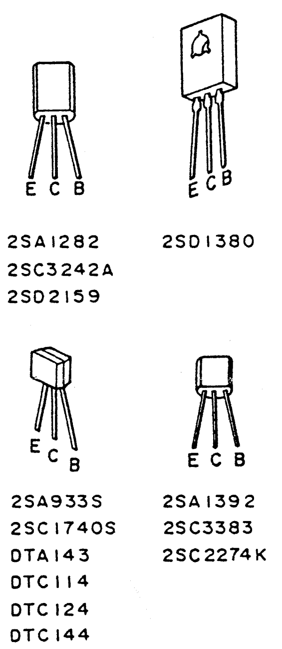


HEAD PHONE PCB
T2118A503C

PRE AMP PCB T2118A503



MP PCB T2118A503AJI



PRINCIPAL PARTS LOCATION

ICS

- IC201 ········ F1
- IC202 ········ C1,2
- IC301 ········ D,E3
- IC302 ········ B3
- IC306 ········ A,B1,2
- IC401 ········ B4
- IC501 ········ G6
- IC601 ········ G2
- IC822 ········ E4,5

TRANSISTOR

- TR201 ········ E1
- TR201b ········ E1
- TR202 ········ D1
- TR203 ········ D1
- TR301 ········ E3
- TR302 ········ E2
- TR302b ········ E3
- TR303 ········ C3
- TR303b ········ A2,3
- TR304 ········ B3
- TR305 ········ B4
- TR306 ········ C3
- TR306b ········ A3
- TR308 ········ B1
- TR309 ········ B1
- TR310 ········ A1
- TR311 ········ B2
- TR311b ········ A2
- TR312 ········ C2,3
- TR313 ········ B,C3
- TR313b ········ A3
- TR401 ········ C,D5
- TR402 ········ C,D5
- TR403 ········ C,D4
- TR404 ········ C,D4
- TR405 ········ C4,5
- TR406 ········ C4,5
- TR407 ········ B5
- TR408 ········ B5
- TR409 ········ C5
- TR701 ········ A5
- TR702 ········ A5
- TR703 ········ E6
- TR704 ········ E6
- TR705 ········ E,F6
- TR706 ········ D5
- TR821 ········ F4
- TR823 ········ F6
- TR824 ········ F6
- TR825 ········ F,G5
- TR826 ········ F5
- TR827 ········ F,G5
- TR828 ········ F,G5
- TR829 ········ E6

CONNECTOR

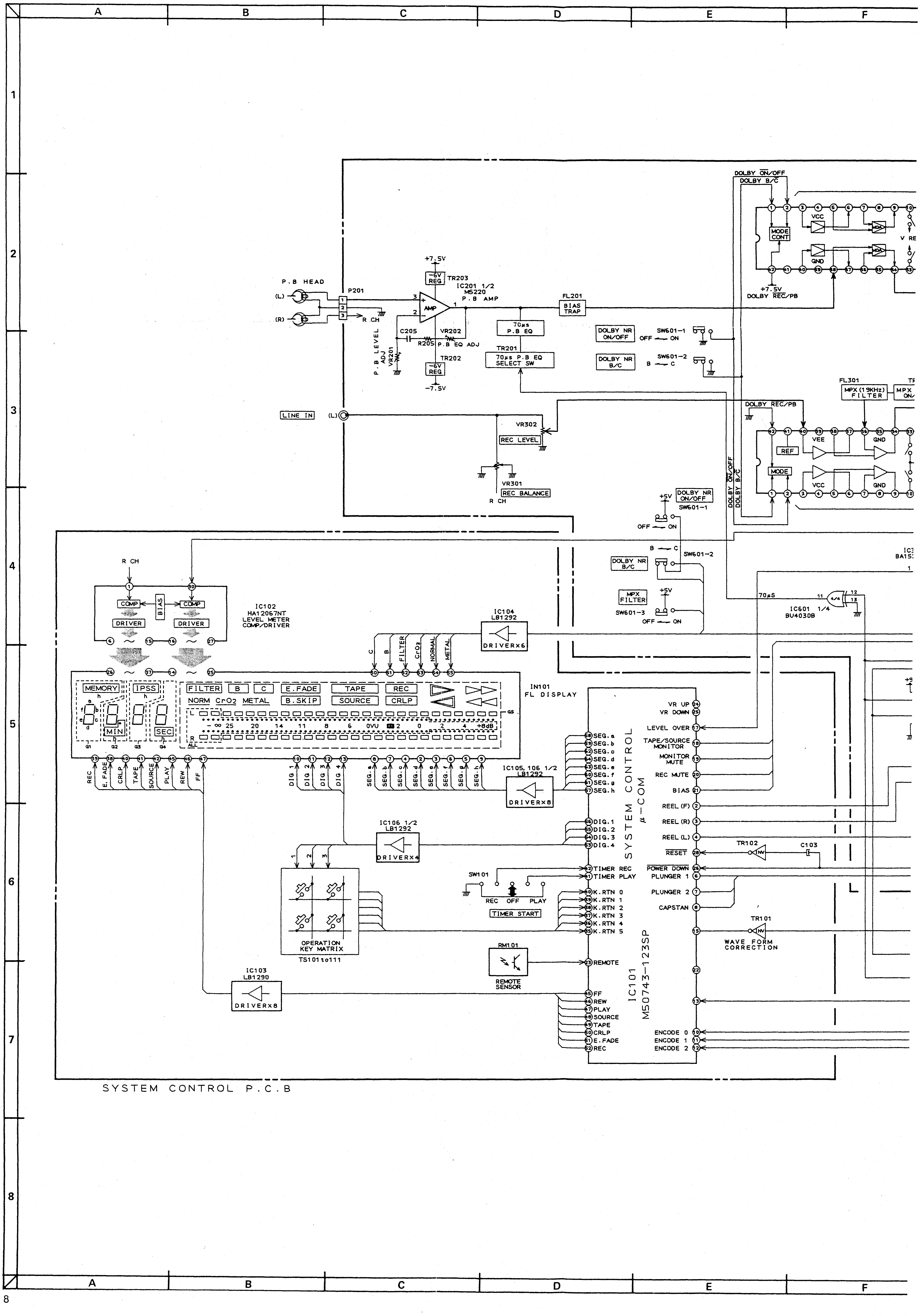
- J201 ········ A3
- J501 ········ A1
- W301 ········ A2,G1
- W302 ········ A2,G1
- W501 ········ A1,F6
- W601 ········ G5
- W602 ········ G5,6
- P1 ········ H6
- P2 ········ H5
- P3 ········ H4
- P4 ········ H3
- P201 ········ F1
- P301 ········ B4
- P401 ········ C5
- P603 ········ G4,5

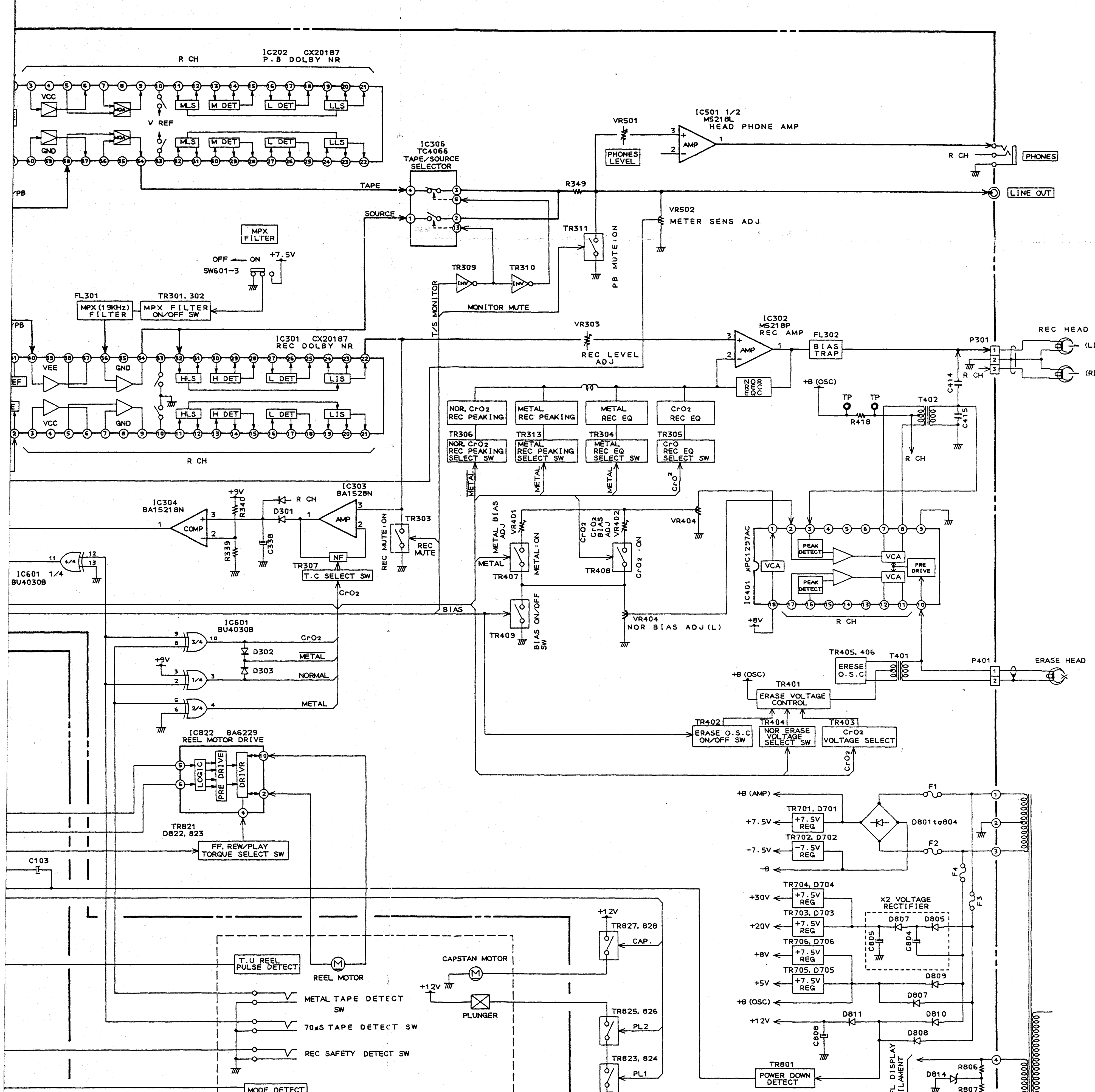
B [■●●] PNP TRANSISTOR

B [●●●] NPN TRANSISTOR

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT


P.B HEAD
P201
R CH
IC201 1/2
M5220
P.B AMP
TR203
-6V REG
+7.5V
-7.5V
TR202
C205
VR202
R205 P.B EQ ADJ
P.B LEVEL ADJ
VR201
70μs P.B EQ
TR201
70μs P.B EQ SELECT SW
FL201
BIAS TRAP
DOLBY NR ON/OFF
SW601-1
OFF — ON
DOLBY NR B/C
SW601-2
B — C
DOLBY ON/OFF
DOLBY B/C
MODE CONT
VCC
GND
DOLBY REC/PB
FL301
MPX (19KHz) FILTER
LINE IN
VR302
REC LEVEL
VR301
REC BALANCE
REF
MODE
VEE
+5V
MPX FILTER
SW601-3
70μS
IC601 1/4
BU4030B
IC102
HA12067NT
LEVEL METER COMP/DRIVER
COMP
BIAS
DRIVER
IC104
LB1292
DRIVERx6
IN101
FL DISPLAY
MEMORY
IPSS
MIN
SEC
FILTER
B
C
E.FADE
TAPE
REC
NORM
CrO2
METAL
B.SKIP
SOURCE
CRLP
- ∞ 25 20 14 11 8 6 0VU 2 0 2 4 +8dB
IC105, 106 1/2
LB1292
DRIVERx8
IC106 1/2
LB1292
DRIVERx4
OPERATION KEY MATRIX
TS101 to 111
SW101
REC OFF PLAY
TIMER START
RM101
REMOTE SENSOR
IC103
LB1290
DRIVERx8
SYSTEM CONTROL μ-COM
IC101
M50743-123SP
SEG.a
SEG.b
SEG.c
SEG.d
SEG.e
SEG.f
SEG.g
SEG.h
DIG.1
DIG.2
DIG.3
DIG.4
TIMER REC
TIMER PLAY
K.RTN 0
K.RTN 1
K.RTN 2
K.RTN 3
K.RTN 4
K.RTN 5
REMOTE
FF
REW
PLAY
SOURCE
TAPE
CRLP
E.FADE
REC
VR UP
VR DOWN
LEVEL OVER
TAPE/SOURCE MONITOR
MONITOR MUTE
REC MUTE
BIAS
REEL (F)
REEL (R)
REEL (L)
RESET
TR102
C103
POWER DOWN
PLUNGER 1
PLUNGER 2
CAPSTAN
TR101
WAVE FORM CORRECTION
ENCODE 0
ENCODE 1
ENCODE 2
SYSTEM CONTROL P.C.B



GX-65MK II
BLOCK DIAGRAM
NO. T211852M

M50743-123SP (SYSTEM CONTROL MI-COM)

Pin No.	SYMBOL	I/O	DESCRIPTION
1	Vcc		+5V
2	REEL(F)	O	Reel motor control output. L: Normal(FWD) direction
3	REEL(R)	O	Reel motor control output. L: Reverse(REV) direction
4	REEL(L)	O	Reel motor torque(Low) control output. H: PLAY, REC PLAY, MUTE PLAY mode L: Other mode
5	REEL(H)	O	Reel motor torque(High) control output. H: FF, REW, AUTO PLAY mode L: Other mode
6	PLUNGER 1	O	Plunger ON/OFF control output.
7	PLUNGER 2	O	L: Plunger ON(Active)
8	CAPSTAN	O	Capstan motor ON/OFF control output. L: capstan motor ON
9	NC		
10 11 12	ENCODER 0 ENCODER 1 ENCODER 2	I I I	Encode data(Mecha. mode) input *Refer to Fig. 1
13	ANTI REC	I	Anti recording control input. H: Inhibited recording mode
14	PULSE(L)		Not used
15	PULSE(R)	I	Take up pulse input.
16			Not used
17	LEVEL OVR	I	Level over input H: At source level is higher than proper level. (On CRLP mode, this "H" input make source signal level down)
18	T/S MONI	O	TAPE monitor/SOURCE monitor select control output. H: TAPE monitor, L: SOURCE monitor
19	MONI MUTE	O	Monitor signal mute control output. L: Monitor signal muted
20	REC MUTE	O	REC mute control output. L: REC mute ON
21	BIAS	O	Bias OSC ON/OFF control output. L: Bias OSC is ON
22	VR LED	O	REC volume LED ON/OFF control output. LED ON: In REC PAUSE, REC PLAY, REC MUTE mode LED FLICK(1 sec interval): CRLP system is ON LED FLICK(125 msec interval): VR down mode
23	REMOTE	I	Serial data input from remote control.
24	VR UP	O	REC VOLUME motor control output. L: VOLUME UP
25	VR DOWN	O	REC VOLUME motor control output. L: VOLUME DOWN
26	POD	I	Power down detect input. L: Power down detect
27	CNVss		GND
28	RESET		Reset input
29	Xin		Crystal connection terminals for clock OSC.
30	Xout		
31			Not used
32	Vss		GND

Pin No.	SYMBOL	I/O	DESCRIPTION
33			Not used
34			Not used
35	RTN 5	I	
36	RTN 4	I	
37	RTN 3	I	Key return data input from key matrix.
38	RTN 2	I	
39	RTN 1	I	
40	RTN 0	I	
41	TIMER PB	I	Timer playback control input. L: Into the playback mode when power is ON
42	TIMER REC	I	Timer recording control input. L: Into the recording mode when power is ON
43	NC		
44	NC		
45	FF	O	Control output forlighting ▷▷ on the FL display.
46	REW	O	Control output forlighting ◁◁ on the FL display.
47	PLAY	O	Control output forlighting ▷ on the FL display.
48	SOURCE	O	Control output forlighting SOURCE on the FL display.
49	TAPE	O	Control output forlighting TAPE on the FL display.
50	CRLP	O	Control output forlighting CRLP on the FL display.
51	E.FADE	O	Control output forlighting E.FADE on the FL display.
52	REC	O	Control output forlighting REC on the FL display.
53	DIG 4	O	
54	DIG 3	O	Grid select output for FLD and key scan signals for key matrix.
55	DIG 2	O	
56	DIG 1	O	
57	SEG h	O	
58	SEG a	O	
59	SEG b	O	
60	SEG f	O	Control signals for lighting 7 segments(a to g) on the FL display
61	SEG g	O	
62	SEG c	O	
63	SEG e	O	
64	SEG d	O	

[Encode output and MECHA. mode]

Mode / Encoder	STOP FF REW	REC PAUSE	PLAY REC PLAY REC MUTE PLAY
Encoder 0	L	H	H
Encoder 1	H	H	L
Encoder 2	H	H	L

Fig. 1